

Title (en)

Process for the separation of air by cryogenic distillation

Title (de)

Verfahren zur Abscheidung von Luft durch kryogene Destillation

Title (fr)

Processus pour la séparation de l'air par distillation cryogénique

Publication

**EP 2713128 A1 20140402 (EN)**

Application

**EP 12306195 A 20121001**

Priority

EP 12306195 A 20121001

Abstract (en)

A process for the separation of air by cryogenic distillation operates either with a product ratio greater than 2.5 in which case nitrogen enriched liquid is sent from a storage tank (27) to the column system and feed air or nitrogen enriched gas (29) from the column system is compressed in a first compressor (33) having an inlet temperature of less than -50°C and then sent to the heat exchanger, or with a product ratio less than 2.5 in which case a second nitrogen rich gas removed from the column system is expanded in a turbine (73) having an inlet temperature lower than the ambient temperature or liquefied in a liquefier and nitrogen enriched liquid (57) is sent to the storage tank from the outlet of the turbine and/or from the column system and/or from the liquefier.

IPC 8 full level

**F25J 3/04** (2006.01)

CPC (source: CN EP US)

**F25J 1/0015** (2013.01 - EP US); **F25J 1/0037** (2013.01 - EP US); **F25J 1/004** (2013.01 - EP US); **F25J 1/0202** (2013.01 - EP US);  
**F25J 1/0234** (2013.01 - EP US); **F25J 3/04054** (2013.01 - CN US); **F25J 3/0406** (2013.01 - CN EP US); **F25J 3/04084** (2013.01 - CN EP US);  
**F25J 3/0409** (2013.01 - CN EP US); **F25J 3/04175** (2013.01 - US); **F25J 3/04224** (2013.01 - CN EP US); **F25J 3/04315** (2013.01 - CN EP US);  
**F25J 3/04357** (2013.01 - CN EP US); **F25J 3/04393** (2013.01 - CN EP US); **F25J 3/04412** (2013.01 - CN EP US);  
**F25J 3/04448** (2013.01 - CN EP US); **F25J 3/04496** (2013.01 - CN EP US); **F25J 2200/20** (2013.01 - CN EP US);  
**F25J 2270/06** (2013.01 - EP US); **F25J 2290/12** (2013.01 - CN EP US)

Citation (search report)

- [XYI] US 2008115531 A1 20080522 - HA BAO [US], et al
- [IY] US 2005132746 A1 20050623 - BRUGEROLLE JEAN-RENAUD [FR], et al
- [IY] US 2006010912 A1 20060119 - BRUGEROLLE JEAN-RENAUD [FR], et al
- [Y] FR 2915271 A1 20081024 - AIR LIQUIDE [FR]
- [Y] FR 2819046 A1 20020705 - AIR LIQUIDE [FR]

Cited by

CN109341193A

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)

**EP 2713128 A1 20140402**; CN 105431698 A 20160323; EP 2904339 A2 20150812; US 2015253075 A1 20150910;  
WO 2014053297 A2 20140410; WO 2014053297 A3 20151119

DOCDB simple family (application)

**EP 12306195 A 20121001**; CN 201380051043 A 20130913; EP 13763036 A 20130913; EP 2013068965 W 20130913;  
US 201314431918 A 20130913