

Title (en)
Process and apparatus for the separation of air by cryogenic distillation

Title (de)
Verfahren und Vorrichtung zur Luftzerlegung durch Tieftemperaturdestillation

Title (fr)
Procédé et installation pour la séparation de l'air par distillation cryogénique

Publication
EP 2597409 B1 20150114 (EN)

Application
EP 11306552 A 20111124

Priority
EP 11306552 A 20111124

Abstract (en)
[origin: EP2597409A1] An apparatus for the separation of air by cryogenic distillation comprises a column system including a double column (100, 101), an intermediate pressure column (103), operating a pressure between that of the high pressure column and that of the low pressure column, and an argon column (102), a heat exchanger (200), a conduit for sending purified compressed air to be cooled in the heat exchanger, a conduit for sending cooled purified compressed air from the heat exchanger at least in part to the high pressure column, means for pressurizing and vaporizing oxygen rich liquid (30) from the low pressure column, means for pressurizing and vaporizing nitrogen rich liquid (40), a conduit for sending argon enriched gas (50, 54) from the low pressure column to the argon column, said argon column having a top condenser (105), a conduit for removing argon rich fluid (80) from the top of the argon column, a conduit for sending a liquid air stream (4, 20, 22) at least in part to a top condenser (107) of the intermediate pressure column where it is partially vaporized to form a vapor and a liquid, a conduit for sending the vapor (123) formed in the top condenser of the intermediate pressure column to the low pressure column and a conduit for sending the liquid (24) from the top condenser of the intermediate pressure column to the intermediate pressure column to be separated.

IPC 8 full level
F25J 3/04 (2006.01)

CPC (source: EP US)
F25J 3/04 (2013.01 - US); **F25J 3/04054** (2013.01 - EP US); **F25J 3/04084** (2013.01 - EP US); **F25J 3/0409** (2013.01 - EP US); **F25J 3/04175** (2013.01 - EP US); **F25J 3/04296** (2013.01 - EP US); **F25J 3/04393** (2013.01 - EP US); **F25J 3/04448** (2013.01 - EP US); **F25J 3/04709** (2013.01 - EP US)

Cited by
FR3010778A1; US9976803B2; WO2015040306A3; EP2634517B1

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

DOCDB simple family (publication)
EP 2597409 A1 20130529; EP 2597409 B1 20150114; CN 103988036 A 20140813; CN 103988036 B 20160210; US 2014318179 A1 20141030; WO 2013075867 A1 20130530

DOCDB simple family (application)
EP 11306552 A 20111124; CN 201280057446 A 20120926; EP 2012068948 W 20120926; US 201214359176 A 20120926