

Title (en)  
PROCESS AND APPARATUS FOR AIR SEPARATION BY RECTIFICATION

Publication  
**EP 0299364 B1 19901227 (DE)**

Application  
**EP 88110876 A 19880707**

Priority  
DE 3722746 A 19870709

Abstract (en)  
[origin: JPS6479574A] PURPOSE: To produce high purity oxygen and nitrogen by providing a two stage rectification column, a rough argon column coupled with the second stage and a high purity oxygen column coupled with the rough argon column through sideways take-out piping. CONSTITUTION: Oxygen-rich fraction from the sample at the first rectification stage 2 is taken out through piping 8, supercooled by a heat exchanger 5 and taken out from the intermediate section of higher temperature than nitrogen-rich fraction being supplied independently. A part of the oxygen-rich fraction cooled down to about -182 deg.C is fed to the intermediate section of a second rectification stage 6 and the remainder is led, as coolant, to a condenser/evaporator 9 on top of a rough argon column 10. The second rectification stage 6 operating at about -179 deg.C and about 1.6 bar separates the previously separated fraction from the first stage 2 into high purity oxygen and nitrogen. Liquid fraction is taken out from the rough argon column 10 through piping 22 and fed to a high purity oxygen column 23 and high purity liquid oxygen is taken out from the sample at the column 23 through piping 25.

IPC 1-7  
**F25J 3/04**

IPC 8 full level  
**F25J 3/04** (2006.01)

CPC (source: EP US)  
**F25J 3/04212** (2013.01 - EP US); **F25J 3/04303** (2013.01 - EP US); **F25J 3/04412** (2013.01 - EP US); **F25J 3/04678** (2013.01 - EP US); **F25J 3/04715** (2013.01 - EP US); **F25J 2200/06** (2013.01 - EP US); **F25J 2200/32** (2013.01 - EP US); **F25J 2200/34** (2013.01 - EP US); **F25J 2200/94** (2013.01 - EP US); **F25J 2205/02** (2013.01 - EP US); **F25J 2215/44** (2013.01 - EP US); **F25J 2215/52** (2013.01 - EP US); **F25J 2215/56** (2013.01 - EP US); **F25J 2220/42** (2013.01 - EP US); **F25J 2220/50** (2013.01 - EP US); **F25J 2250/20** (2013.01 - EP US); **F25J 2250/42** (2013.01 - EP US); **Y10S 62/924** (2013.01 - EP US)

Citation (examination)  
EP 0136926 A1 19850410 - AIR LIQUIDE [FR]

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