

Title (en)  
Process and apparatus for obtaining argon

Title (de)  
Verfahren und Vorrichtung zur Gewinnung von Argon

Title (fr)  
Procédé et dispositif d'obtention d'argon

Publication  
**EP 0628777 B1 19981104 (DE)**

Application  
**EP 94107374 A 19940511**

Priority  
DE 4317916 A 19930528

Abstract (en)  
[origin: DE4317916A1] For the isolation of argon, air is fractionated in a rectification system having at least one air fractionation column (3) and one crude argon column. An argon-containing oxygen fraction (4) is taken from the air fractionation column (3) and introduced into a crude argon column (5). In the upper region of the crude argon column (5), a crude argon fraction (6) is taken off and a first return liquid (7) is fed in. From the bottom region of the crude argon column (5), a first residue fraction (8) is taken off. The crude argon fraction (6) is introduced into the lower region of a semi-pure column (9). In the upper region of the semi-pure column (9), an argon fraction depleted in oxygen (10, 15) is taken off and a second return liquid (11) is fed in. From the lower region of the semi-pure column (9), a second residue fraction (12) is taken off, this fraction forming the first return liquid (7) for the crude argon column (5). <IMAGE>

IPC 1-7  
**F25J 3/02**

IPC 8 full level  
**F25J 3/02** (2006.01); **F25J 3/04** (2006.01)

CPC (source: EP US)  
**F25J 3/0423** (2013.01 - EP US); **F25J 3/04412** (2013.01 - EP US); **F25J 3/04678** (2013.01 - EP US); **F25J 3/04703** (2013.01 - EP US); **F25J 2235/58** (2013.01 - EP US); **F25J 2245/50** (2013.01 - EP US); **Y10S 62/924** (2013.01 - EP US)

Citation (examination)  
GB 2107597 A 19830505 - LUMMUS CO

Cited by  
EP0752565A3; DE19543953C1; DE19651280C1; EP0870524A1; FR2761897A1; EP3048401A1; DE102009016043A1; DE102007035619A1; DE102013018664A1; WO2014135271A2; DE102012006479A1; EP2026024A1; US6205815B1; US6272883B2; US6612129B2; EP0775881A2; EP2447653A1; EP2645031A1; DE102013003417A1; DE102012008415A1; WO2013159868A2; EP3040665A1; EP2645033A1; DE102012006484A1; WO2013143646A2; DE202013012594U1

Designated contracting state (EPC)  
DE ES FR GB IT NL SE

DOCDB simple family (publication)  
**DE 4317916 A1 19941201**; DE 59407206 D1 19981210; EP 0628777 A1 19941214; EP 0628777 B1 19981104; ES 2125370 T3 19990301; US 5426946 A 19950627

DOCDB simple family (application)  
**DE 4317916 A 19930528**; DE 59407206 T 19940511; EP 94107374 A 19940511; ES 94107374 T 19940511; US 25051194 A 19940527