

Title (en)
Process for air separation by cryogenic distillation

Title (de)
Verfahren zur Luftzerlegung durch Tieftemperaturdestillation

Title (fr)
Procédé de séparation d'air par distillation cryogénique

Publication
EP 1106945 A1 20010613 (FR)

Application
EP 00403354 A 20001130

Priority
FR 9915208 A 19991202

Abstract (en)
An amount of product(s) (36, 38, 41, 42) produced by an air separation unit (X) is increased by integrating a single column cryogenic distillation unit (Y) such that the production of the air separation unit is boosted to A+B moles/h. A process for increasing the amount of product(s) produced by the air separation unit (X) comprises integrating the single column cryogenic distillation unit. The product has a different composition, and optionally a different state and/or a different pressure, from the fluid mixture(s). The air separation unit alone, before a single column cryogenic distillation unit is integrated to it, produces an A moles/h of a first product and the amount of the first product withdrawn from the air separation unit and optionally from the distillation unit is increased to C moles/h. C is greater than A, and comprises fluid stream(s) withdrawn from the air separation unit and optionally from the distillation unit. The integration comprises sending energy and/or fluid stream(s) from the air separation unit to the distillation unit and/or from the distillation unit to the air separation unit. The distillation unit treats fluid mixture(s) by process(es) such that the air separation unit produces an amount of first product A+B moles/h. The process(es) is/are pressurization, mixing, expansion, distillation, liquefaction, adsorption, and/or permeation. An Independent claim is also included for an air separation apparatus having an air separation unit comprising a high and/or a low pressure column (25, 27) and possibly an intermediate pressure column and/or mixing column, which are thermally linked; means for producing a stream containing more than 20 mol % oxygen from a single column cryogenic distillation unit; means for sending part(s) of the stream to the high and/or low pressure column and/or intermediate pressure column and/or mixing column; means for sending cooled and purified air to the high pressure and/or to the distillation unit; and means for removing an oxygen enriched product from the unit(s) of the apparatus.

Abstract (fr)
Dans un appareil de séparation d'air par distillation cryogénique, le gaz de tête d'une colonne de mélange (11) est envoyé aux passages de chauffage d'un vaporiseur de cuve (7) de la colonne basse pression (5) d'une double colonne (1) alimentée par de l'air à distiller. Ceci augmente la production d'oxygène en cuve de la colonne basse pression. <IMAGE>

IPC 1-7
F25J 3/04

IPC 8 full level
F25J 3/04 (2006.01)

CPC (source: EP US)
F25J 3/0446 (2013.01 - EP US); **F25J 3/04466** (2013.01 - EP US); **F25J 3/04715** (2013.01 - EP US); **F25J 3/04969** (2013.01 - EP US); **F25J 2200/06** (2013.01 - EP US); **F25J 2235/50** (2013.01 - EP US); **F25J 2245/02** (2013.01 - EP US); **F25J 2245/50** (2013.01 - EP US); **F25J 2250/20** (2013.01 - EP US); **Y10S 62/924** (2013.01 - EP US)

Citation (search report)
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Designated contracting state (EPC)
AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE TR

DOCDB simple family (publication)
US 2001003909 A1 20010621; **US 6385996 B2 20020514**; AT E297001 T1 20050615; DE 60020500 D1 20050707; DE 60020500 T2 20060323; EP 1106945 A1 20010613; EP 1106945 B1 20050601; FR 2801963 A1 20010608; FR 2801963 B1 20020329; JP 2001194058 A 20010717

DOCDB simple family (application)
US 72546200 A 20001130; AT 00403354 T 20001130; DE 60020500 T 20001130; EP 00403354 A 20001130; FR 9915208 A 19991202; JP 2000368526 A 20001204