

Title (en)
Process and apparatus to produce high purity nitrogen

Title (de)
Verfahren und Vorrichtung zur Gewinnung von hochreinem Sauerstoff

Title (fr)
Procédé et appareil pour la production d'oxygène à haute pureté

Publication
EP 0955509 B1 20041222 (DE)

Application
EP 98116041 A 19980825

Priority
DE 19819338 A 19980430

Abstract (en)
[origin: EP0955509A1] A low temperature air rectification process and assembly for the production of nitrogen has a pressurised column (4) and a low pressure column (5). Process air (1, 3; 1, 3') is introduced to the pressurised column (4) which subsequently discharges an oxygen-enriched fraction (11) into the low pressure column (5). Gaseous nitrogen (18) is discharged from the low pressure column (5) into a condenser head (17), where it is at least partly condensed by indirect heat exchange with an evaporating fluid (13; 13', 44). Gaseous nitrogen (24,24', 25, 29) is discharged from the low-pressure column (5) at a pressure which is higher than the operating pressure of the low-pressure column (5). Part of the liquid nitrogen generated by indirect heat exchange in the condenser head (17), or part of the liquid nitrogen (20) drawn from the low-pressure column (5), is in liquid condition to a pressure (21) which exceeds that the pressure in the low-pressure column (5). The resulting pressurised nitrogen is then evaporated in a product evaporator (23) by indirect heat exchange supplied by another medium (35, 35') to be surrendered as compressed nitrogen (24, 24', 25, 29). The product evaporator can be located inside or outside the columns.

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