

Title (en)

Air separation method and apparatus for producing nitrogen

Title (de)

Lufttrennungsverfahren und Vorrichtung zur Herstellung von Stickstoff

Title (fr)

Procédé et dispositif pour la production d'azote par séparation d'air

Publication

EP 0709632 B1 20010516 (EN)

Application

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Priority

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- US 37406095 A 19950119
- US 45994695 A 19950531

Abstract (en)

[origin: EP0709632A2] Air is separated in a distillation column 30 into an oxygen-rich liquid bottom fraction and a nitrogen-rich head vapour fraction. A stream 50 of the oxygen-rich fraction is partially vaporised in a vaporiser 54 and subjected to phase separation in a phase separator 56. The resulting liquid phase 58 is reduced in pressure by passage through valve 60 and employed to cool head condenser 42 which condenses a part of the nitrogen rich head fraction to provide reflux for the column 30. A stream of vapour 62 flows from the phase separator 56 and is expanded by a turboexpander 64 with the performance of work. Nitrogen product is withdrawn from the top of the column 30 as stream 68. In an alternative embodiment (Figure 2) the stream 50 is divided, one part flowing to the valve 60 without being partially vaporised, and the other part being totally vaporised and sent to the turboexpander. <IMAGE>

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