

Title (en)

Process and device for cryogenic air separation

Title (de)

Verfahren und Vorrichtung zur Tieftemperaturzerlegung von Luft

Title (fr)

Procédé et appareil pour la séparation cryogénique de l'air

Publication

EP 1052465 B1 20050511 (DE)

Application

EP 99112289 A 19990625

Priority

DE 19921949 A 19990512

Abstract (en)

[origin: EP1052465A1] To maintain very low air temps., the intake air (1) is passed to an initial rectifying column (3). An overflow fraction (6,7 a given density (p) is taken in a liquid condition from a reservoir (24,16) within the first column (3), is relaxed (14,14a,18), transferred to a further process stage (5,23). The liquid level in the reservoir (24,16) is at a first level (h1) and an initial pressure (p1). The relaxed fraction is brought to a second and higher level (h2(h2 ≥ h1)) at the next stage (5,23) and is held at a second and lower pressure (p2 ≤ p1). The pressure difference DELTA p=p1 x p2 is lower than the hydrostatic pressure (phdr=p x g(h2+h1)) between the two levels, where g is the acceleration of the earth rotation. The relaxation is structured so that the developed gas bubbles reduce the density to give the pressure difference DELTA p to allow the fraction to pass to the next stage (5,23).

IPC 1-7

F25J 3/02; **F25J 3/04**

IPC 8 full level

F25J 3/02 (2006.01); **F25J 3/04** (2006.01)

CPC (source: EP KR US)

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Citation (examination)

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- STER J.V.: "The production of liquid nitrogen from atmospheric air using a gas refrigerating machine (Thesis)", 1960, TECHNISCHE HOOGESCHOOL, DELFT

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