

Title (en)
CRYOGENIC DISTILLATION METHOD AND INSTALLATION FOR AIR SEPARATION

Title (de)
KRYOGENES DESTILLATIONSVERFAHREN UND ANLAGE ZUR LUFTTRENNUNG

Title (fr)
PROCÉDÉ ET INSTALLATION DE SÉPARATION D'AIR PAR DISTILLATION CRYOGÉNIQUE

Publication
EP 1711765 B1 20130619 (FR)

Application
EP 05717658 A 20050107

Priority
• FR 2005050011 W 20050107
• FR 0450067 A 20040112

Abstract (en)
[origin: FR2865024A1] Separation of air is obtained by vaporization of pressurised liquid in an exchange line of a air separation unit by heat exchange with a compressed gas at a cryogenic temperature. The process is carried out in an installation comprising a double or triple air separation column operating at a high pressure and with an exchange line, in which (1) all the air is raised to high pressure, greater by at least 5 bars to the mean pressure, and purified; (2) part of the air flow is cooled in the exchanger and divided into two fractions; (3) each fraction is expanded in a turbine; (4) the inlet pressure of each turbine is greater by 5 bars to the mean pressure; (5) the exhaust pressure is equal to the mean pressure; (6) part of the air expanded in one of the turbines is sent to the double or triple column; (7) a cold compressor, mechanically connected to one of the expansion turbines aspirates air, which has been cooled in the heat exchanger, and exhausts air at a temperature higher than the inlet temperature, the fluid thus compressed being re-introduced in the exchanger in which part condenses; (8) at least one liquid from the column is vaporized in the heat exchanger. The turbine not coupled to the cooled compressor is coupled to a compressor followed by a refrigerant, and, optionally, the temperature of aspiration of the cold compressor approximates to the temperature of vaporization of the liquid. An independent claim is also included for the installation of the process.

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