

Title (en)
Process and apparatus for the separation of air by cryogenic distillation

Title (de)
Verfahren und Vorrichtung zur Tieftemperaturzerlegung von Luft

Title (fr)
Procédé et dispositif pour la séparation cryogénique d'air

Publication
EP 1767884 A1 20070328 (EN)

Application
EP 05108826 A 20050923

Priority
EP 05108826 A 20050923

Abstract (en)
A process for separating air by cryogenic distillation in a column system comprising a high pressure column and a low pressure column comprises compressing all the feed air in a first compressor (1) to a first outlet pressure, sending a first part of the air at the first outlet pressure to a second compressor (3) and compressing the air to a second outlet pressure, cooling at least part of the air at the second outlet pressure in a heat exchanger (5) liquefying at least part of the air at the second outlet pressure and sending the liquefied air to at least one column of the column system wherein at least 50% of the liquefied air sent to the column system has been compressed in the second compressor, cooling a second part of the air (12) at the first outlet pressure in the heat exchanger and expanding at least part of the second part of the air in an expander (13) from the first outlet pressure to the pressure of a column (30,31) of column system and sending the expanded air to that column, at least partially vaporizing an auxiliary fluid (6), eventually further warming said auxiliary fluid in the heat exchanger, sending at least part of this auxiliary fluid to a third compressor (8) to a third outlet pressure, introducing at least part (9) of said auxiliary fluid at said third outlet pressure in the heat exchanger, cooling said auxiliary fluid and at least partially liquefying said auxiliary fluid, removing said auxiliary stream (10) from the heat exchanger and expanding (16) it to a fourth pressure level before reintroducing it in the heat exchanger where it will be partially vaporized as above-mentioned, removing liquid (20) from a column (31) of the column system and vaporizing the liquid by heat exchange in the heat exchanger.

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Citation (search report)

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