

Title (en)

Process and device for the cryogenic separation of air

Title (de)

VERFAHREN UND VORRICHTUNG ZUR TIEFTEMPERATUR-LUFTZERLEGUNG

Title (fr)

Procédé et installation pour la séparation cryogénique d'air

Publication

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Application

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Abstract (en)

[origin: WO2009095188A2] The invention relates to a method and a device used for the low-temperature separation of air in a distillation column system, comprising at least one high-pressure column (11) and a low-pressure column (12). The method has a high pre-liquifaction of 30% or more. Feed air is introduced into the distillation column system. The distillation column system further has a pre-column (10), the operating pressure of which is higher than the operating pressure of the high-pressure column (11). A first partial stream (1) of the feed air is introduced into the pre-column (10). The pre-column (10) has a head condenser (14), which is configured as a condenser-evaporator having a condensation chamber and an evaporation chamber. A gaseous fraction (30, 31) from the upper region of the pre-column (10) is introduced into the condensation chamber of the head condenser (14). Fluid (6) formed in the condensation chamber is at least partially applied to the pre-column (10) as runback (7). A second partial stream (2a; 2b) of the feed air is introduced into the evaporation chamber of the head condenser (14).

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