

Title (en)

PROCESS AND DEVICE FOR CRYOGENIC AIR FRACTIONATION

Title (de)

VERFAHREN UND VORRICHTUNG ZUR TIEFTEMPERATURZERLEGUNG VON LUFT

Title (fr)

PROCÉDÉ ET DISPOSITIF DE SÉPARATION DE L'AIR À BASSE TEMPÉRATURE

Publication

EP 2313724 A2 20110427 (DE)

Application

EP 09777817 A 20090811

Priority

- EP 2009005830 W 20090811
- DE 102008037693 A 20080814

Abstract (en)

[origin: WO2010017968A2] The process and the device serve for cryogenic air fractionation, in particular for supplying an oxygen-enriched product stream to an oxyfuel power plant. The distillation column system for nitrogen/oxygen separation has a high-pressure column (26) and a low-pressure column (32). The high-pressure column (26) and the low-pressure column (32) are thermally coupled via a condenser-evaporator (37). Feed air (1) is compressed in an air compressor (3), cooled at least in a first post-cooler (6) and purified in a purification device (22), cooled in a main heat exchanger (23a, 23b, 23c) and introduced at least in part (25, 29) into the high-pressure column (26). At least one liquid stream (33, 35) is introduced from the high-pressure column (26) into the low-pressure column (32). An oxygen-enriched product stream (41, 45, 46, 47, 48) is taken off from the low-pressure column (32). A first nitrogen stream (63, 64, 65, 66) is withdrawn from the high-pressure column (26) and warmed to a temperature of at least 280 K (6). The warmed first nitrogen stream (67) is work-expanded (72) in a first warm expansion engine (68). The first nitrogen stream (70, 71) which is expanded in the first warm expansion engine (68) is work-expanded in a second warm expansion engine (72).

IPC 8 full level

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CPC (source: EP US)

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Citation (search report)

See references of WO 2010017968A2

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