

Title (en)  
METHOD AND DEVICE FOR GENERATING PURE NITROGEN AND PURE OXYGEN BY MEANS OF CRYOGENIC AIR DECOMPOSITION

Title (de)  
VERFAHREN UND VORRICHTUNG ZUR ERZEUGUNG VON REINEM STICKSTOFF UND REINEM SAUERSTOFF DURCH  
TIEFTEMPATURZERLEGUNG VON LUFT

Title (fr)  
PROCEDE ET DISPOSITIF DESTINES A LA PRODUCTION D'AZOTE PUR ET D'OXYGENE PUR PAR DECOMPOSITION A BASSE  
TEMPERATURE DE L'AIR

Publication  
**EP 3394536 A1 20181031 (DE)**

Application  
**EP 16826004 A 20161222**

Priority  
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• EP 2016002162 W 20161222

Abstract (en)  
[origin: WO2017108187A1] The method and device are used for obtaining pure nitrogen and oxygen by low-temperature separation of air. A distillation column system comprises a high-pressure column (20), a low-pressure column (21) and an argon column (22) as well as a high-pressure column top condenser (23), a low-pressure column bottom condenser (24) and an argon top condenser (25). The entire amount of air supplied is compressed to a first pressure in a main air compressor (1). A first sub-stream (10, 6, 15, 16) of the air that has been compressed to the first pressure is cooled in a main heat exchanger (26) and is fed (18) at least in part to the distillation column system. A second sub-stream (7) of the air that has been compressed to the first pressure is cooled in the main heat exchanger (26) and is then at least partially liquefied in the low-pressure column bottom evaporator (24). The at least partially liquefied second sub-stream (31, 33, 19) is introduced at least in part into the distillation column system. A liquid oxygen-enriched fraction (62, 86) is introduced (63, 64, 65) into the evaporation chamber of the high-pressure top condenser (23). An argon-containing oxygen stream (70) from an intermediate point in the low-pressure column (21) is introduced into the argon column (22). The second sub-stream (31) downstream of the low-pressure column bottom evaporator (24) is introduced at least in part into the argon top condenser (25) and is partially evaporated therein. The second sub-stream (33) downstream of the argon top condenser (25) is introduced at least in part into the high-pressure column (20) and/or into the low-pressure column (21).

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Citation (search report)  
See references of WO 2017108187A1

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