

Title (en)
CRYOGENIC DISTILLATION METHOD AND APPARATUS FOR PRODUCING PRESSURIZED AIR BY MEANS OF EXPANDER BOOSTER IN LINKAGE WITH NITROGEN EXPANDER FOR BRAKING

Title (de)
KRYOGENES DESTILLATIONSVERFAHREN UND VORRICHTUNG ZUR ERZEUGUNG VON DRUCKLUFT MITTELS EINES EXPANDER-BOOSTERS IN VERBINDUNG MIT EINEM STICKSTOFF-EXPANDER ZUM BREMSSEN

Title (fr)
PROCÉDÉ ET APPAREIL DE DISTILLATION CRYOGÉNIQUE POUR PRODUIRE DE L'AIR SOUS PRESSION AU MOYEN D'UN ACCÉLÉRATEUR DE DÉTENTE EN LIAISON AVEC UN DÉTENDEUR D'AZOTE POUR LE FREINAGE

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Application
EP 17933288 A 20171129

Priority
CN 2017113525 W 20171129

Abstract (en)
[origin: EP3719427A1] Provided are a method and apparatus for producing nitrogen and oxygen by means of cryogenic distillation of air. Nitrogen products are extracted only from the top of a tower. If a customer needs nitrogen with lower pressure, part of pure nitrogen which is partially located at a first nitrogen product pressure is reheated in a main heat exchanger, then decompressed to a second nitrogen product pressure by means of a nitrogen expander, further reheated by means of the main heat exchanger, and output as a low-pressure nitrogen product. The nitrogen expander can be braked by an expander booster for compressing air. By means of the method, nitrogen with different pressures can be suitably produced, and moreover, the energy consumption for producing the pressurized air can be reduced by utilizing the expansion work of nitrogen.

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CPC (source: EP KR US)
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Citation (search report)
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• [XAYI] FR 2943408 A1 20100924 - AIR LIQUIDE [FR]
• [YA] US 4817394 A 19890404 - ERICKSON DONALD C [US]
• [Y] US 4817393 A 19890404 - ERICKSON DONALD C [US]
• [XAY] US 5515687 A 19960514 - ARRIULOU PASCAL [FR]
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• [E] EP 3343158 A1 20180704 - LINDE AG [DE]
• See references of WO 2019104524A1

Designated contracting state (EPC)
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