

Title (en)

PROCESS AND APPARATUS FOR SEPARATION OF HYDROCARBONS AND NITROGEN

Title (de)

VERFAHREN UND VORRICHTUNG ZUR TRENNUNG VON KOHLENWASSERSTOFFEN UND STICKSTOFF

Title (fr)

PROCÉDÉ ET APPAREIL POUR LA SÉPARATION D'HYDROCARBURES ET D'AZOTE

Publication

EP 2984428 A2 20160217 (EN)

Application

EP 14712742 A 20140324

Priority

- GB 201306342 A 20130408
- GB 2014050910 W 20140324

Abstract (en)

[origin: WO2014167283A2] There is provided a process for the separation of a gaseous feed comprising a mixture of nitrogen, hydrocarbons and at least 0.005 mol% carbon dioxide, the process comprising: (i) cooling and at least partially condensing the gaseous feed, and (ii) separating in one or more stages the cooled and at least partially condensed gaseous feed into a hydrocarbon rich product stream low in nitrogen and a nitrogen rich reject stream low in hydrocarbons, and wherein refrigeration is provided to one or more stages of the separation process by a heat pump system in which a heat pump refrigerant fluid is compressed and subsequently expanded at one or more pressure levels below the condensing pressure, and subsequently heated in heat exchange with the gaseous feed and/or one or more streams generated by the separation process to provide refrigeration thereto; and further wherein at least part of the heated refrigerant is recycled through the heat pump system. There is also provided an apparatus for the separation of a gaseous feed comprising a mixture of nitrogen, hydrocarbons and at least 0.005 mol% carbon dioxide.

IPC 8 full level

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CPC (source: EP US)

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Citation (search report)

See references of WO 2014167283A2

Citation (examination)

- EP 0094062 A2 19831116 - AIR PROD & CHEM [US]
- EP 0095739 A2 19831207 - AIR PROD & CHEM [US]
- EP 2386814 A2 20111116 - LINDE AG [DE]

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