

Title (en)

Method of removing nitrogen from a nitrogen containing stream

Title (de)

Verfahren zur Entfernung von Stickstoff aus einem stickstoffhaltigen Strom

Title (fr)

Procédé d'élimination d'azote d'un flux contenant de l'azote

Publication

EP 3043133 A1 20160713 (EN)

Application

EP 15150823 A 20150112

Priority

EP 15150823 A 20150112

Abstract (en)

The present invention provides a method of removing nitrogen from a nitrogen-containing stream (10), the method comprising at least the steps of: (a) providing a nitrogen-containing stream (10); (b) heating the nitrogen-containing stream (10) in a first heat exchanger (2) thereby obtaining a heated nitrogen-containing stream (20); (c) compressing the heated nitrogen-containing stream (20) thereby obtaining a compressed nitrogen-containing stream (30); (d) splitting the compressed nitrogen-containing stream (30) into a first split stream (40) and a second split stream (50); (e) cooling the second split stream (50) in the first (2) and a second heat exchanger (3) thereby obtaining a cooled second split stream (70); (f) expanding the cooled second split stream (70) thereby obtaining an expanded second split stream (80); (g) separating the expanded second split stream (80) in a first gas/liquid separator (5) thereby obtaining a gaseous nitrogen-enriched stream (90) and a liquid nitrogen-depleted stream (110); (h) heating the gaseous nitrogen-enriched stream (90) in the first or second heat exchanger (2,3) thereby obtaining a heated nitrogen-enriched stream (100).

IPC 8 full level

F25J 1/00 (2006.01); **F25J 1/02** (2006.01); **F25J 3/06** (2006.01)

CPC (source: EP)

F25J 1/0025 (2013.01); **F25J 1/004** (2013.01); **F25J 1/0202** (2013.01); **F25J 3/061** (2013.01); **F25J 3/0635** (2013.01); **F25J 3/066** (2013.01); **F25J 2215/04** (2013.01); **F25J 2220/62** (2013.01); **F25J 2230/30** (2013.01)

Citation (search report)

- [X] US 6199403 B1 20010313 - COLE ERIC T [US], et al
- [XI] US 2014083132 A1 20140327 - MAUNDER ANTHONY DWIGHT [GB], et al
- [XI] US 2008066493 A1 20080320 - BUIJS CORNELIS [NL], et al
- [XI] US 2004065113 A1 20040408 - PARADOWSKI HENRI [FR]

Cited by

IT201800010171A1; WO2020095246A3

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)

BA ME

DOCDB simple family (publication)

EP 3043133 A1 20160713

DOCDB simple family (application)

EP 15150823 A 20150112