

Title (en)

Self-refrigerating process for cryogenic fractionation and purification of gas and heat exchanger for carrying out the process

Title (de)

Selbstkühlendes Verfahren zur kryogenischen Fraktionierung und Reinigung von Gas, sowie Wärmetauscher zu seiner Durchführung

Title (fr)

Procédé autoréfrigéré de fractionnement cryogénique et de purification de gaz et échangeur de chaleur pour la mise en oeuvre de ce procédé

Publication

EP 0634618 B1 19970903 (FR)

Application

EP 94401517 A 19940701

Priority

FR 9308695 A 19930715

Abstract (en)

[origin: EP0634618A1] The present invention relates to a self-refrigerating process for cryogenic fractionation and purification of gas, and a heat exchanger for carrying out this process. The gaseous fluid is treated in an exchanger forming a unitary assembly: it is partially condensed by cooling in the circuits (C5) and (C1) and the uncondensed gaseous fraction is reheated in the circuit (C2). The required cold is supplied by the condensates which, after supercooling (C3) and pressure reduction (V1) evaporate (C4). The process can be carried out in an exchanger comprising multiple channels for each circuit. This process allows the purification of a gaseous fluid having a plurality of components which can be condensed by cooling. <IMAGE>

IPC 1-7

F25J 3/06; F25J 3/00

IPC 8 full level

F28D 9/00 (2006.01); **F25B 43/04** (2006.01); **F25J 3/00** (2006.01); **F25J 3/02** (2006.01); **F25J 3/06** (2006.01); **F25J 3/08** (2006.01);
F25J 5/00 (2006.01); **F28C 3/06** (2006.01); **F28D 21/00** (2006.01)

CPC (source: EP KR US)

F25B 1/00 (2013.01 - KR); **F25J 3/0219** (2013.01 - EP US); **F25J 3/0233** (2013.01 - EP US); **F25J 3/0238** (2013.01 - EP US);
F25J 3/0252 (2013.01 - EP US); **F25J 5/007** (2013.01 - EP US); **F25J 2200/80** (2013.01 - EP US); **F25J 2210/12** (2013.01 - EP US);
F25J 2215/62 (2013.01 - EP US); **Y10S 62/903** (2013.01 - EP US)

Cited by

EP0767351A3; EP0915311A1

Designated contracting state (EPC)

BE DE ES FR GB IT NL

DOCDB simple family (publication)

EP 0634618 A1 19950118; EP 0634618 B1 19970903; BR 9402812 A 19950404; CN 1102879 A 19950524; CO 4410270 A1 19970109;
DE 69405330 D1 19971009; DE 69405330 T2 19980402; ES 2109631 T3 19980116; FR 2707745 A1 19950120; FR 2707745 B1 19951006;
JP H07167556 A 19950704; KR 950003753 A 19950217; MY 111414 A 20000429; RU 2126519 C1 19990220; RU 94026286 A 19960810;
US 5461870 A 19951031

DOCDB simple family (application)

EP 94401517 A 19940701; BR 9402812 A 19940714; CN 94108609 A 19940715; CO 94030969 A 19940714; DE 69405330 T 19940701;
ES 94401517 T 19940701; FR 9308695 A 19930715; JP 16208494 A 19940714; KR 19940017108 A 19940715; MY PI19941802 A 19940711;
RU 94026286 A 19940715; US 27417994 A 19940712