

Title (en)
Process and apparatus for the reliquefaction of gaseous helium

Title (de)
Verfahren und Anlage für die Wiederverflüssigung von Helium

Title (fr)
Procédé et installation de reliquéfaction d'hélium gazeux

Publication
EP 0823603 A1 19980211 (FR)

Application
EP 97401762 A 19970722

Priority
FR 9609876 A 19960805

Abstract (en)
Helium gas, which results from evaporation when liquid helium is transferred from container (R1) to container (R2), is reliquified by passage through a compressor (10) and then through an expansion device (16), the gas being cooled on its way from the compressor to device (16) by heat exchange with the gas flowing to the compressor. Also claimed is an installation therefor comprising a phase separator (2) through which liquid flows from container (R1) to (R2), a duct (5) for carrying gas from separator (2) via heat exchanger (8) to compressor (10) and a return duct (11) from the compressor via the heat exchanger (8) to a Joule-Thomson expansion valve (16) and thence to the separator (2), to return the reliquified helium to the flow into container (R2).

Abstract (fr)
Procédé de reliquéfaction d'hélium gazeux produit lors de son transfert d'un conteneur donneur (R1) à un conteneur receveur (R2), caractérisé en ce qu'on prélève un courant d'hélium gazeux en un point d'un module de compression (10) destiné au conditionnement d'hélium gazeux sous pression, on refroidit ce courant d'hélium gazeux par échange thermique avec l'hélium gazeux destiné audit module de compression (10), et on détend l'hélium gazeux ainsi refroidi pour obtenir de l'hélium reliquéfié. <IMAGE>

IPC 1-7
F25J 1/02

IPC 8 full level
F17C 13/00 (2006.01); **F25B 1/00** (2006.01); **F25J 1/00** (2006.01)

CPC (source: EP KR US)
F25J 1/0007 (2013.01 - EP KR US); **F25J 1/004** (2013.01 - EP KR US); **F25J 1/0202** (2013.01 - EP KR US); **F25J 2210/90** (2013.01 - EP KR US); **F25J 2290/62** (2013.01 - EP KR US)

Citation (search report)
• [A] EP 0520937 A1 19921230 - SULZER AG [CH]
• [A] US 4637216 A 19870120 - SHENOY THIRTHAHALLI A [US], et al

Designated contracting state (EPC)
DE FR IT NL

DOCDB simple family (publication)
EP 0823603 A1 19980211; FR 2752050 A1 19980206; FR 2752050 B1 19980911; JP H10160264 A 19980619; KR 19980018341 A 19980605; TW 333602 B 19980611; US 5829269 A 19981103

DOCDB simple family (application)
EP 97401762 A 19970722; FR 9609876 A 19960805; JP 20908097 A 19970804; KR 19970037165 A 19970804; TW 86110375 A 19970722; US 89783797 A 19970721