

Title (en)
Compression circuit for a gaseous fluid at a low pressure and temperature.

Title (de)
Kompressionskreislauf eines Gasfluidums bei niedrigem Druck und Temperatur.

Title (fr)
Circuit de compression d'un fluide gazeux à basse pression et à basse température.

Publication
EP 0526320 B1 19950301 (FR)

Application
EP 92402160 A 19920727

Priority
FR 9109482 A 19910726

Abstract (en)
[origin: JPH05215421A] PURPOSE: To enhance efficiency of the entire system by disposed a heat exchanger being cooled by a fluid generated from a second container between two compressors in a circuit thereby enhancing safety of action while saving power. CONSTITUTION: A helium refrigeration system comprises a cycle compressor 1, a precooling stage 2, a cooling stage 3 and a final expansion unit 4 generating liquid helium in a container 5. Liquid in the container 5 is cooled by a heat exchanger 7, expanded by an expansion unit 8 and extracted to produce liquid and gaseous helium in a cryogenic container 9. Gaseous atmosphere in the container 9 is recompressed and reheated before being returned back to the cycle compressor 1. A first heat exchanger 16 is disposed between second and third compressors 12, 13 and cooled with a liquid taken out from a duct 6 through a passage 17 having a flow controller 170. A duct 17 extends to a second heat exchanger 18 disposed between fourth and fifth compressors 14, 15 and recirculates gas taken out toward the compressor 1. Gas temperature is stabilized in a duct 10 at the inlet the third compressor 13 and at the inlet of the fifth compressors 15.

IPC 1-7
F25J 1/02; **F25B 9/10**

IPC 8 full level
F25J 1/00 (2006.01); **F25B 9/02** (2006.01); **F25B 9/10** (2006.01); **F25J 1/02** (2006.01)

CPC (source: EP US)
F25B 9/10 (2013.01 - EP US); **F25J 1/0007** (2013.01 - EP US); **F25J 1/0037** (2013.01 - EP US); **F25J 1/004** (2013.01 - EP US); **F25J 1/0042** (2013.01 - EP US); **F25J 1/0065** (2013.01 - EP US); **F25J 1/0202** (2013.01 - EP US); **F25J 1/0276** (2013.01 - EP US); **F25J 1/0292** (2013.01 - EP US); **F25J 2230/04** (2013.01 - EP); **F25J 2240/40** (2013.01 - EP); **F25J 2270/912** (2013.01 - EP US)

Designated contracting state (EPC)
CH DE FR GB LI NL

DOCDB simple family (publication)
EP 0526320 A1 19930203; **EP 0526320 B1 19950301**; DE 69201541 D1 19950406; DE 69201541 T2 19950713; FR 2679635 A1 19930129; FR 2679635 B1 19931015; JP H05215421 A 19930824; US 5265426 A 19931130

DOCDB simple family (application)
EP 92402160 A 19920727; DE 69201541 T 19920727; FR 9109482 A 19910726; JP 19370192 A 19920721; US 91802092 A 19920724