

Title (en)

METHOD FOR OPERATING CRYOCOOLER AND CRYOCOOLER

Title (de)

VERFAHREN ZUM BETRIEB EINES KRYOKÜHLERS UND KRYOKÜHLER

Title (fr)

PROCÉDÉ DE FONCTIONNEMENT D'UN CRYORÉFRIGÉRATEUR ET CRYORÉFRIGÉRATEUR

Publication

EP 4350249 A3 20240612 (EN)

Application

EP 23196704 A 20230912

Priority

JP 2022161835 A 20221006

Abstract (en)

An initial cooling time of a cryocooler (10) is shortened. A method for operating a cryocooler 10 includes: connecting a second compressor 80 in series with a first compressor 12 on a high pressure line 63 or a low pressure line 64; connecting a buffer volume 70 to the low pressure line 64 via a supply valve 72; executing initial cooling for cooling an expander 14 from an initial temperature to a cryogenic temperature in a state where the second compressor 80 and the buffer volume 70 are connected to the cryocooler 10; and executing a steady operation of maintaining the expander 14 at the cryogenic temperature after the initial cooling. The execution of the initial cooling includes supplying a working gas to the expander 14 by using the first compressor 12 and the second compressor 80, and controlling the supply valve 72 to keep a pressure of the high pressure line 63 within a preset appropriate pressure range based on the measured pressure of the high pressure line 63.

IPC 8 full level

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CPC (source: CN EP US)

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Citation (search report)

- [A] EP 3913300 A1 20211124 - SUMITOMO HEAVY INDUSTRIES [JP]
- [A] US 2022163030 A1 20220526 - TAKAHASHI KAKERU [JP]
- [A] US 2013232999 A1 20130912 - MATSUI TAKAAKI [JP]

Designated contracting state (EPC)

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Designated validation state (EPC)

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