

Title (en)

CRYOCOOLER AND METHOD FOR OPERATING CRYOCOOLER

Title (de)

KRYOKÜHLER UND VERFAHREN ZUM BETRIEB DES KRYOKÜHLERS

Title (fr)

CRYORÉFRIGÉRATEUR ET PROCÉDÉ DE FONCTIONNEMENT DE CRYORÉFRIGÉRATEUR

Publication

EP 4361527 A1 20240501 (EN)

Application

EP 23202568 A 20231010

Priority

JP 2022172326 A 20221027

Abstract (en)

There is provided a new technology which can operate a plurality of cold heads (14) at the same time asynchronously. A cryocooler 10 includes: a compressor 12; a plurality of cold heads 14 connected in parallel to the compressor 12; a pressure sensor 48 that measures a pressure of a working gas on a supply side from the compressor 12 to the plurality of cold heads 14 or on a collection side from the plurality of cold heads 14 to the compressor 12; and a controller 50 that acquires individual pressure waveform data measured by the pressure sensor 48 when the cold heads 14 are individually operated for each of the plurality of cold heads 14, and operates the plurality of cold heads 14 at the same time asynchronously based on the individual pressure waveform data.

IPC 8 full level

F25B 9/14 (2006.01); **F25B 49/00** (2006.01)

CPC (source: EP US)

F25B 9/14 (2013.01 - EP); **F25B 9/145** (2013.01 - EP US); **F25B 49/005** (2013.01 - EP); **F25B 49/02** (2013.01 - US); **F25B 2309/003** (2013.01 - EP); **F25B 2309/1405** (2013.01 - EP); **F25B 2309/1411** (2013.01 - EP); **F25B 2309/1413** (2013.01 - EP); **F25B 2309/1418** (2013.01 - EP); **F25B 2309/1427** (2013.01 - US); **F25B 2700/1931** (2013.01 - US); **F25B 2700/1933** (2013.01 - US)

Citation (applicant)

JP 2003049770 A 20030221 - SUMITOMO HEAVY INDUSTRIES, et al

Citation (search report)

- [A] US 2003024252 A1 20030206 - FUNAYAMA SHIN [JP], et al
- [A] US 2019277541 A1 20190912 - HIRAYAMA TAKASHI [JP]
- [A] US 2019316574 A1 20191017 - XU MINGYAO [JP], et al
- [A] US 2022235984 A1 20220728 - MORIE TAKAAKI [JP]
- [A] JP H09130964 A 19970516 - SANYO ELECTRIC CO

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 ME MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)

BA

Designated validation state (EPC)

KH MA MD TN

DOCDB simple family (publication)

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DOCDB simple family (application)

EP 23202568 A 20231010; CN 202311334424 A 20231016; JP 2022172326 A 20221027; US 202318495826 A 20231027