

Title (en)

COOLING DEVICE AND METHOD FOR CONROLLING COOLING DEVICE

Title (de)

KÜHLVORRICHTUNG UND VERFAHREN ZUM KÜHLEN EINER KÜHLVORRICHTUNG

Title (fr)

DISPOSITIF DE REFROIDISSEMENT ET PROCÉDÉ DE COMMANDE DE DISPOSITIF DE REFROIDISSEMENT

Publication

EP 4160115 A1 20230405 (EN)

Application

EP 21908077 A 20210819

Priority

JP 2021030413 W 20210819

Abstract (en)

An object of the present invention is to prevent cavitation in a refrigerant pump from occurring due to a decrease in a net positive suction head in a cooling device. A cooling device of the present invention is a cooling device using a refrigeration cycle in which a refrigerant is circulated through a heat receiver (1), a compressor (2), a heat radiator (3), and an expander (4), and includes a tank (5) that separates the refrigerant supplied from the expander (4) into a gas phase refrigerant and a liquid phase refrigerant, a pump (6) that sends the liquid phase refrigerant separated in the tank (5) to the heat receiver (1), and a control unit (7) that controls the amount of increase in pressure of the compressor 2 in the refrigeration cycle, and the control unit (7) increases the pressure of the compressor (2) in a limited range in which the value of the net positive suction head of the pump (6) does not fall below a predetermined value.

IPC 8 full level

F25B 43/00 (2006.01); **F25B 1/00** (2006.01); **F25B 41/40** (2021.01); **F25B 49/02** (2006.01)

CPC (source: EP)

F25B 43/00 (2013.01); **F25B 49/02** (2013.01); **F25B 49/022** (2013.01); **F25B 2400/23** (2013.01); **F25B 2600/025** (2013.01); **F25B 2600/111** (2013.01)

Citation (search report)

See references of WO 2023021660A1

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

Designated extension state (EPC)

BA ME

Designated validation state (EPC)

KH MA MD TN

DOCDB simple family (publication)

EP 4160115 A1 20230405; AU 2021398580 A1 20230309; JP 2023029214 A 20230303; JP 7081731 B1 20220607; JP WO2023021660 A1 20230223; WO 2023021660 A1 20230223

DOCDB simple family (application)

EP 21908077 A 20210819; AU 2021398580 A 20210819; JP 2021030413 W 20210819; JP 2022083923 A 20220523; JP 2022510105 A 20210819