

Title (en)  
REFRIGERATION CYCLE DEVICE

Title (de)  
KÄLTEKREISLAUFVORRICHTUNG

Title (fr)  
DISPOSITIF À CYCLE FRIGORIFIQUE

Publication  
**EP 4012293 A4 20220810 (EN)**

Application  
**EP 19940618 A 20190807**

Priority  
JP 2019031273 W 20190807

Abstract (en)  
[origin: EP4012293A1] A refrigeration cycle apparatus (100) includes a compressor (1), a first heat exchanger (2), a second heat exchanger (4), an expansion valve (3), a flow rate adjuster (130), and a controller (10). The flow rate adjuster (130) adjusts an amount of refrigerant flowing per unit time through at least one of the first heat exchanger (2) and the expansion valve (3). An operation mode of the refrigeration cycle apparatus (100) includes an activation mode and a normal mode. The activation mode is executed when the compressor (1) is activated. The normal mode is executed after the activation mode. In the normal mode, the refrigerant circulates in a first circulation direction in which the refrigerant flows sequentially through the compressor (1), the first heat exchanger (2), the expansion valve (3), and the second heat exchanger (4). The controller (10) controls the compressor (1) and the flow rate adjuster (130) to reduce the amount of refrigerant flowing per unit time through at least one of the first heat exchanger (2) and the expansion valve (3) in the activation mode to be less than the amount of refrigerant in the normal mode.

IPC 8 full level  
**F25B 5/04** (2006.01); **F25B 1/00** (2006.01); **F25B 13/00** (2006.01); **F25B 41/20** (2021.01)

CPC (source: EP)  
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Citation (search report)

- [XAI] US 2017102175 A1 20170413 - CHEN WEI [US], et al
- [XAI] JP H05306841 A 19931119 - MITSUBISHI HEAVY IND LTD
- [A] WO 2012014345 A1 20120202 - MITSUBISHI ELECTRIC CORP [JP], et al
- [A] WO 2017146270 A1 20170831 - SANDEN AUTOMOTIVE CLIMATE SYSTEMS CORP [JP]
- See also references of WO 2021024443A1

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

DOCDB simple family (publication)  
**EP 4012293 A1 20220615**; **EP 4012293 A4 20220810**; JP 7361777 B2 20231016; JP WO2021024443 A1 20210211;  
WO 2021024443 A1 20210211

DOCDB simple family (application)  
**EP 19940618 A 20190807**; JP 2019031273 W 20190807; JP 2021538641 A 20190807