

Title (en)  
REFRIGERATION CYCLE DEVICE

Title (de)  
KÄLTEKREISLAUFVORRICHTUNG

Title (fr)  
DISPOSITIF À CYCLE DE RÉFRIGÉRATION

Publication  
**EP 4317846 A1 20240207 (EN)**

Application  
**EP 22781288 A 20220331**

Priority  
• JP 2021061280 A 20210331  
• JP 2021061278 A 20210331  
• JP 2021161994 A 20210930  
• JP 2022016798 W 20220331

Abstract (en)  
A refrigeration cycle apparatus including a first refrigerant circuit and a second refrigerant circuit so as to improve the efficiency of operations is provided. A first refrigerant circuit (10) using a first refrigerant having a pressure of 1.2 MPa or less at 30 °C and a second refrigerant circuit (20) using a second refrigerant having a pressure of 1.5 MPa or more at 30 °C are provided, and a dual cycle operation in which the first refrigerant circuit (10) and the second refrigerant circuit (20) are simultaneously operated to exchange heat between the first refrigerant and the second refrigerant and a single cycle operation in which the first refrigerant circuit (10) is operated without operating the second refrigerant circuit (20) to perform a cooling operation or heating operation are enabled in a switchable manner.

IPC 8 full level  
**F25B 7/00** (2006.01); **F25B 1/00** (2006.01)

CPC (source: EP US)  
**F25B 5/02** (2013.01 - US); **F25B 7/00** (2013.01 - EP); **F25B 13/00** (2013.01 - EP); **F25B 41/20** (2021.01 - US); **F25B 49/02** (2013.01 - EP); **F25B 2313/02732** (2013.01 - EP); **F25B 2339/047** (2013.01 - EP)

Citation (search report)  
See references of WO 2022211078A1

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 4317846 A1 20240207**; JP 2022159197 A 20221017; JP 2023115228 A 20230818; JP 7356057 B2 20231004; US 2024027104 A1 20240125; WO 2022211078 A1 20221006

DOCDB simple family (application)  
**EP 22781288 A 20220331**; JP 2022016798 W 20220331; JP 2022058412 A 20220331; JP 2023105591 A 20230628; US 202318374425 A 20230928