

Title (en)  
REFRIGERATION CYCLE DEVICE

Title (de)  
KÄLTEKREISLAUFVORRICHTUNG

Title (fr)  
DISPOSITIF À CYCLE FRIGORIFIQUE

Publication  
**EP 4339533 A4 20240501 (EN)**

Application  
**EP 21941906 A 20210513**

Priority  
JP 2021018149 W 20210513

Abstract (en)  
[origin: WO2022239172A1] This refrigeration cycle device comprises: a main circuit in which a low-stage compressor, an oil cooler, a high-stage compressor, an oil separator, a condenser, a first expansion valve, and an evaporator are connected in a loop by refrigerant piping and through which a refrigerant circulates in this order; and an oil return circuit, one end of which is connected to the oil separator and the other end of which is connected to a first junction that is on the discharge side of the low-stage compressor and that is on the inlet side of the oil cooler, for returning the oil separated by the oil separator to the main circuit.

IPC 8 full level  
**F25B 1/10** (2006.01); **F25B 31/00** (2006.01); **F25B 43/02** (2006.01)

CPC (source: EP)  
**F25B 1/10** (2013.01); **F25B 31/004** (2013.01); **F25B 43/02** (2013.01); **F25B 49/02** (2013.01); **F25B 2400/13** (2013.01); **F25B 2500/16** (2013.01); **F25B 2600/2509** (2013.01); **F25B 2600/2513** (2013.01)

Citation (search report)

- [X1] US 5016447 A 19910521 - LANE L THOMAS [US], et al
- [X1] JP 2021055940 A 20210408 - DAIKIN IND LTD
- See also references of WO 2022239172A1

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 4339533 A1 20240320**; **EP 4339533 A4 20240501**; CN 117203475 A 20231208; JP WO2022239172 A1 20221117;  
WO 2022239172 A1 20221117

DOCDB simple family (application)  
**EP 21941906 A 20210513**; CN 202180097604 A 20210513; JP 2021018149 W 20210513; JP 2023520670 A 20210513