

Title (en)
REFRIGERATION DEVICE

Title (de)
KÜHLVORRICHTUNG

Title (fr)
DISPOSITIF DE REFRIGERATION

Publication
EP 2264380 A4 20150121 (EN)

Application
EP 09714344 A 20090225

Priority
• JP 2009053347 W 20090225
• JP 2008048904 A 20080229
• JP 2008322497 A 20081218

Abstract (en)
[origin: EP2264380A1] An air-conditioning apparatus (1) comprises a two-stage compression-type compression mechanism (2), a heat source-side heat exchanger (4), a usage-side heat exchanger (6), a switching mechanism (3), and an intermediate heat exchanger (7). The switching mechanism (3) is a mechanism for switching between a cooling operation state wherein refrigerant is circulated sequentially through the compression mechanism (2), the heat source-side heat exchanger (4), and the usage-side heat exchanger (6); and a heating operation state wherein refrigerant is circulated sequentially through the compression mechanism (2), the usage-side heat exchanger (6), and the heat source-side heat exchanger (4). The intermediate heat exchanger (7) is a heat exchanger capable of functioning as a cooler of refrigerant discharged from a first-stage compression element (2c) and drawn into a second-stage compression element (2d) when the switching mechanism (3) has been set to a cooling operation state, and also capable of functioning as an evaporator of refrigerant whose heat is radiated in the usage-side heat exchanger (6) when the switching mechanism (3) has been set to a heating operation state.

IPC 8 full level
F25B 1/10 (2006.01); **F25B 5/00** (2006.01); **F25B 13/00** (2006.01)

CPC (source: EP US)
F25B 1/10 (2013.01 - EP US); **F25B 9/008** (2013.01 - EP US); **F25B 13/00** (2013.01 - EP US); **F25B 2309/061** (2013.01 - EP US);
F25B 2313/021 (2013.01 - EP US); **F25B 2313/02741** (2013.01 - EP US); **F25B 2400/04** (2013.01 - EP US); **F25B 2400/072** (2013.01 - EP US);
F25B 2400/13 (2013.01 - EP US); **F25B 2600/17** (2013.01 - EP US)

Citation (search report)
• [XA] JP H09145189 A 19970606 - SANYO ELECTRIC CO
• [XYI] EP 1426710 A1 20040609 - SANYO ELECTRIC CO [JP]
• [Y] JP H02309157 A 19901225 - MATSUSHITA ELECTRIC IND CO LTD
• [X] JP 2007183044 A 20070719 - FUJI ELECTRIC RETAIL SYSTEMS
• [A] JP H09145188 A 19970606 - SANYO ELECTRIC CO
• [A] JP 2004301453 A 20041028 - SANYO ELECTRIC CO
• [A] DE 10313850 A1 20041007 - VISTEON GLOBAL TECH INC [US]
• See references of WO 2009107626A1

Designated contracting state (EPC)
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 SE SI SK TR

DOCDB simple family (publication)
EP 2264380 A1 20101222; EP 2264380 A4 20150121; EP 2264380 B1 20180404; AU 2009218270 A1 20090903; AU 2009218270 B2 20111222;
CN 101960235 A 20110126; CN 101960235 B 20130102; JP 2009229051 A 20091008; JP 5239824 B2 20130717; KR 20100121672 A 20101118;
US 2011005270 A1 20110113; WO 2009107626 A1 20090903

DOCDB simple family (application)
EP 09714344 A 20090225; AU 2009218270 A 20090225; CN 200980107040 A 20090225; JP 2008322497 A 20081218;
JP 2009053347 W 20090225; KR 20107020604 A 20090225; US 91904709 A 20090225