

Title (en)  
REFRIGERATION DEVICE

Title (de)  
KÜHLVORRICHTUNG

Title (fr)  
DISPOSITIF DE RÉFRIGÉRATION

Publication  
**EP 2068093 A4 20141224 (EN)**

Application  
**EP 07806192 A 20070829**

Priority  
• JP 2007066715 W 20070829  
• JP 2006246153 A 20060911

Abstract (en)  
[origin: EP2068093A1] An object of this invention is to enable the refrigerant level in a liquid receiver to be stably controlled even when the high-pressure-side refrigerant is in a subcritical state in a refrigeration device that comprises a refrigerant circuit in which a compressor, a radiator, a first expansion valve, a liquid receiver, a second expansion valve, and an evaporator are connected in sequence. The refrigeration device (1, 101) of this invention is provided with a compression mechanism (11), a radiator (13), a first expansion mechanism (15), a liquid receiver (16), a second expansion mechanism (17, 33a, 33b), an evaporator (31, 31a, 31b) and a control unit (23). The control unit minimizes the degree of pressure reduction by the first expansion mechanism when the refrigerant that flows from the refrigerant discharge side of the compression mechanism to the refrigerant inflow side of the first expansion mechanism has reached a subcritical state.

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

CPC (source: EP US)  
**F25B 9/008** (2013.01 - EP US); **F25B 41/39** (2021.01 - EP); **F25B 5/02** (2013.01 - EP US); **F25B 13/00** (2013.01 - EP US);  
**F25B 41/39** (2021.01 - US); **F25B 2309/061** (2013.01 - EP US); **F25B 2313/02741** (2013.01 - EP US); **F25B 2341/063** (2013.01 - EP US);  
**F25B 2600/17** (2013.01 - EP US); **F25B 2600/2513** (2013.01 - EP US); **F25B 2700/191** (2013.01 - EP US); **F25B 2700/1931** (2013.01 - EP US);  
**F25B 2700/2102** (2013.01 - EP US)

Citation (search report)  
• [XYI] WO 03019085 A1 20030306 - MAERSK CONTAINER IND AS [DK], et al  
• [Y] US 6044655 A 20000404 - OZAKI YUKIKATSU [JP], et al  
• [A] JP 2001004235 A 20010112 - SANDEN CORP  
• [A] JP 2001133058 A 20010518 - MATSUSHITA ELECTRIC IND CO LTD  
• [A] JP 2001289537 A 20011019 - MITSUBISHI HEAVY IND LTD  
• See references of WO 2008032568A1

Designated contracting state (EPC)  
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU LV MC MT NL PL PT RO SE SI SK TR

DOCDB simple family (publication)  
**EP 2068093 A1 20090610; EP 2068093 A4 20141224; EP 2068093 B1 20180808;** CN 101512246 A 20090819; CN 101512246 B 20100818;  
ES 2685813 T3 20181011; JP 2008064437 A 20080321; JP 5332093 B2 20131106; US 2010050674 A1 20100304;  
WO 2008032568 A1 20080320

DOCDB simple family (application)  
**EP 07806192 A 20070829;** CN 200780033400 A 20070829; ES 07806192 T 20070829; JP 2006246153 A 20060911;  
JP 2007066715 W 20070829; US 43975207 A 20070829