

Title (en)  
FREEZING APPARATUS

Title (de)  
GEFRIERVORRICHTUNG

Title (fr)  
APPAREIL DE CONGÉLATION

Publication  
**EP 1808653 A1 20070718 (EN)**

Application  
**EP 05776073 A 20050830**

Priority  
• JP 2005015781 W 20050830  
• JP 2004252938 A 20040831

Abstract (en)  
In an air conditioner (10), a refrigerant adjustment tank (14) is disposed in a refrigerant circuit (11). The refrigerant adjustment tank (14) is disposed just after an expander (16). In the refrigerant circuit (11), a liquid injection line (31) and a gas injection line (33) are arranged. When a liquid side control valve (32) is placed in the open state, liquid refrigerant in the refrigerant adjustment tank (14) is supplied through the liquid injection line (31) to the suction side of a compressor (15). On the other hand, when a gas side control valve (34) is placed in the open state, gas refrigerant in the refrigerant adjustment tank (14) is supplied through the gas injection line (33) to the suction side of the compressor (15). The opening of the liquid and gas side control valves (32, 34) is controlled to thereby make a change in the state of refrigerant drawn into the compressor (15), whereby the amount of refrigerant passing through the compressor (15) and the amount of refrigerant passing through the expander (16) are balanced with each other.

IPC 8 full level  
**F25B 1/00** (2006.01); **F25B 1/10** (2006.01); **F25B 41/00** (2006.01)

CPC (source: EP KR US)  
**F25B 1/00** (2013.01 - KR); **F25B 1/10** (2013.01 - KR); **F25B 9/008** (2013.01 - EP US); **F25B 9/06** (2013.01 - EP US); **F25B 13/00** (2013.01 - EP US); **F25B 40/00** (2013.01 - EP US); **F25B 41/00** (2013.01 - KR); **F25B 45/00** (2013.01 - EP US); **F25B 2309/061** (2013.01 - EP US); **F25B 2313/0272** (2013.01 - EP US); **F25B 2313/02741** (2013.01 - EP US); **F25B 2313/02742** (2013.01 - EP US); **F25B 2400/14** (2013.01 - EP US); **F25B 2400/23** (2013.01 - EP US); **F25B 2600/17** (2013.01 - EP US); **F25B 2600/2515** (2013.01 - EP US)

Citation (search report)  
See references of WO 2006025397A1

Cited by  
EP3159628A1; EP2077426A4; FR2967483A1; EP2518423A3; US11022355B2; WO2012076299A3; EP3420191B1

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 NL PL PT RO SE SI SK TR

DOCDB simple family (publication)  
**EP 1808653 A1 20070718**; AU 2005278483 A1 20060309; AU 2005278483 B2 20090115; CN 100458307 C 20090204; CN 101006310 A 20070725; JP 2006071137 A 20060316; JP 4375171 B2 20091202; KR 100837498 B1 20080612; KR 20070046922 A 20070503; US 2008098758 A1 20080501; WO 2006025397 A1 20060309

DOCDB simple family (application)  
**EP 05776073 A 20050830**; AU 2005278483 A 20050830; CN 200580028475 A 20050830; JP 2004252938 A 20040831; JP 2005015781 W 20050830; KR 20077005797 A 20070313; US 66131505 A 20050830