

Title (en)  
HEAT PUMP TYPE AIR CONDITIONER

Title (de)  
KLIMAANLAGE MIT WÄRMEPUMPE

Title (fr)  
CLIMATISEUR DE TYPE POMPE À CHALEUR

Publication  
**EP 2211127 A1 20100728 (EN)**

Application  
**EP 08851740 A 20081111**

Priority  
• JP 2008070471 W 20081111  
• JP 2007303420 A 20071122

Abstract (en)  
An object is to provide a heat-pump air conditioner that can reliably prevent an outdoor heat exchanger and a drain pan from freezing during heating, while maintaining high capacity and high performance, without affecting the cooling/heating capacity and performance. In a heat-pump air conditioner 1 provided with a gas injection circuit 33 that injects an intermediate-pressure refrigerant into an intermediate intake port 21A of a compressor 21, an auxiliary heat exchanger 24 having an anti-freezing function is provided at a lower part of the outdoor heat exchanger 23, and a liquefied injection circuit 36 is connected, which, after the intermediate-pressure refrigerant vaporized in the gas injection circuit 33 is switched by switching valves 34 and 35 to be introduced into the auxiliary heat exchanger 24, guides the refrigerant to the intermediate intake port 21A of the compressor 21.

IPC 8 full level  
**F25B 1/00** (2006.01); **F25B 47/02** (2006.01)

CPC (source: EP)  
**F25B 13/00** (2013.01); **F25B 47/006** (2013.01); **F25B 1/10** (2013.01); **F25B 2313/0272** (2013.01); **F25B 2313/02741** (2013.01); **F25B 2400/13** (2013.01); **F25B 2400/16** (2013.01)

Cited by  
CN110542256A; EP2716998A4; US9494348B2; US9822996B2; US9003819B2

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 MT NL NO PL PT RO SE SI SK TR

Designated extension state (EPC)  
AL BA MK RS

DOCDB simple family (publication)  
**EP 2211127 A1 20100728**; **EP 2211127 A4 20171101**; EP 3388758 A1 20181017; JP 2009127939 A 20090611; JP 5357418 B2 20131204; WO 2009066581 A1 20090528

DOCDB simple family (application)  
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