

Title (en)
Cooling cycle apparatus and method of operating the same

Title (de)
Kälteanlage und Verfahren zum Betrieb derselben

Title (fr)
Système de refroidissement et sa méthode d'utilisation

Publication
EP 1610076 A2 20051228 (EN)

Application
EP 05013389 A 20050621

Priority
• JP 2004186230 A 20040624
• JP 2005163347 A 20050602

Abstract (en)
A cooling cycle apparatus and a method of operating the same that is capable of preventing frost or ice formation at the lower part of an outdoor heat exchanger (8) without damage to hot line function and improving heating capacity. A refrigerant pipe (13) is connected between an indoor expansion valve (6) and an outdoor expansion valve (7). The refrigerant pipe (13) is branched into a hot line pipe (a first pipe) (13A), which extends through a part of the outdoor heat exchanger (8), and a bypass pipe (a second pipe) (13B), which does not extend through the outdoor heat exchanger (8). The refrigerant pipe is designed such that a predetermined circulating amount of the refrigerant can be divided through the hot line pipe (13A) and the bypass pipe (13B) at a predetermined ratio.

IPC 1-7
F25B 13/00; **F25B 47/00**

IPC 8 full level
F25B 13/00 (2006.01); **F25B 41/00** (2006.01); **F25B 41/04** (2006.01); **F25B 47/00** (2006.01); **F25D 17/06** (2006.01)

CPC (source: EP KR US)
F25B 1/00 (2013.01 - KR); **F25B 13/00** (2013.01 - EP KR US); **F25B 47/006** (2013.01 - EP US); **F25B 49/00** (2013.01 - KR); **F25B 2400/04** (2013.01 - EP US); **F25B 2600/2515** (2013.01 - EP US); **F25B 2700/2106** (2013.01 - EP US)

Cited by
CN105157291A; CN108895722A; FR2960628A1; CN103294086A; CN111765594A; EP3951287A4; WO2011148071A1

Designated contracting state (EPC)
DE FR GB

DOCDB simple family (publication)
EP 1610076 A2 20051228; **EP 1610076 A3 20070214**; JP 2006038447 A 20060209; JP 4122349 B2 20080723; KR 20060048272 A 20060518; US 2005284174 A1 20051229

DOCDB simple family (application)
EP 05013389 A 20050621; JP 2005163347 A 20050602; KR 20050048919 A 20050608; US 15769405 A 20050622