

Title (en)
FREEZING DEVICE

Title (de)
TIEFKÜHLVORRICHTUNG

Title (fr)
DISPOSITIF DE CONGÉLATION

Publication
EP 3425306 A4 20190807 (EN)

Application
EP 17759815 A 20170223

Priority
• JP 2016038112 A 20160229
• JP 2017006932 W 20170223

Abstract (en)
[origin: EP3425306A1] An air conditioning system (10) that is a refrigeration system that suppresses the prolongation of a defrost operation is equipped with a four-stage compressor (20), a fourth heat exchanger (44), a first heat exchanger (41), a bypass valve (28), and a control component (15). During a first cycle, the fourth heat exchanger cools refrigerant that has been discharged from a fourth compression component (24) at the uppermost stage of the four-stage compressor, and the first heat exchanger cools refrigerant that has been discharged from a first compression component (21) at the lowermost stage. During a second cycle, in which the flow of refrigerant is the opposite of what it is in the first cycle, the fourth heat exchanger and the first heat exchanger function as evaporators. The bypass valve opens and closes a bypass flow path (28a) that bypasses, from a first flow path (24b) through which the refrigerant that has been discharged from the fourth compression component flows to a second flow path (21a) through which refrigerant that becomes sucked into the first compression component flows, the refrigerant that has been discharged from the fourth compression component. The control component controls the bypass valve to open the bypass flow path during a defrost operation that the control component performs by switching the second cycle to the first cycle.

IPC 8 full level
F25B 13/00 (2006.01); **F25B 47/02** (2006.01); **F25B 49/02** (2006.01)

CPC (source: EP)
F25B 13/00 (2013.01); **F25B 47/02** (2013.01); **F25B 49/02** (2013.01); **F25B 2400/04** (2013.01); **F25B 2600/2501** (2013.01)

Citation (search report)
• [A] EP 2728270 A1 20140507 - DAIKIN IND LTD [JP]
• [A] DE 1428047 A1 19681128 - BASF AG
• [A] JP 2014126324 A 20140707 - DAIKIN IND LTD
• See references of WO 2017150349A1

Cited by
EP4033175A4; EP4027077A4; CN113348333A; EP3922928A4; US11976851B2; US12066222B2

Designated contracting state (EPC)
AL 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 RS SE SI SK SM TR

DOCDB simple family (publication)
EP 3425306 A1 20190109; EP 3425306 A4 20190807; EP 3425306 B1 20200212; JP 2017155984 A 20170907; JP 6160725 B1 20170712; WO 2017150349 A1 20170908

DOCDB simple family (application)
EP 17759815 A 20170223; JP 2016038112 A 20160229; JP 2017006932 W 20170223