

Title (en)

AIR CONDITIONER AND REFRIGERANT AMOUNT DETECTION METHOD FOR AIR CONDITIONER

Title (de)

KLIMAANLAGE UND VERFAHREN ZUM ERKENNEN DER KÜHLMITTELMENGE IN EINER KLIMAANLAGE

Title (fr)

CLIMATISEUR ET PROCÉDÉ DE DÉTECTION DE LA QUANTITÉ DE FLUIDE FRIGORIGÈNE POUR LE CLIMATISEUR

Publication

**EP 2511630 B1 20190724 (EN)**

Application

**EP 10835875 A 20101201**

Priority

- JP 2009280792 A 20091210
- JP 2010071481 W 20101201

Abstract (en)

[origin: WO2011070954A1] Provided are an air conditioner and refrigerant amount detection method for an air conditioner, which make it possible to constantly detect the amount of charged refrigerant with high accuracy without a heating means specially provided in a liquid level detecting circuit and even under low external temperature. An air conditioner (1), which is provided with a supercooling circuit (20), comprises: a first liquid level detecting circuit (40) which connects one position at a predetermined height inside a receiver (15) to the inlet side of a compressor (10) via the supercooling circuit (20); a second liquid level detecting circuit (45) which is branched from a bypass circuit (41) of the first liquid level detecting circuit (40) and acts as a bypass for leading, to the supercooling circuit (20), the refrigerant that has been taken out from the receiver (15); a temperature detecting unit (44) which detects the temperature of the refrigerant that has been depressurized by passing through the first liquid level detecting circuit (40) or the second liquid level detecting circuit (45); and a refrigerant amount detecting unit (48) which detects, by the temperature detecting unit (44), the post-depressurization temperature of the refrigerant that has been taken out from the receiver (15) via the first liquid level detecting circuit (40) or the second liquid level detecting circuit (45), and determines the amount of charged refrigerant on the basis of the thus detected temperature.

IPC 8 full level

**F25B 49/02** (2006.01); **F25B 1/00** (2006.01); **F25B 40/02** (2006.01); **F25B 40/06** (2006.01); **F25B 45/00** (2006.01)

CPC (source: EP)

**F25B 40/02** (2013.01); **F25B 40/06** (2013.01); **F25B 45/00** (2013.01); **F25B 49/005** (2013.01); **F25B 49/02** (2013.01); **F25B 2345/003** (2013.01); **F25B 2345/007** (2013.01); **F25B 2400/13** (2013.01); **F25B 2400/16** (2013.01); **F25B 2600/05** (2013.01); **F25B 2700/04** (2013.01)

Cited by

CN104949414A; US9733000B2; US10655900B2

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)

**WO 2011070954 A1 20110616**; CN 102472542 A 20120523; CN 102472542 B 20150114; EP 2511630 A1 20121017; EP 2511630 A4 20170920; EP 2511630 B1 20190724; JP 2011122767 A 20110623; JP 5582773 B2 20140903

DOCDB simple family (application)

**JP 2010071481 W 20101201**; CN 201080032591 A 20101201; EP 10835875 A 20101201; JP 2009280792 A 20091210