

Title (en)

Air conditioner and method of determining refrigerant quantity

Title (de)

Klimaanlage und Verfahren zum Bestimmen der Kühlmittelmenge

Title (fr)

Climatiseur et procédé pour déterminer la quantité de réfrigérant

Publication

EP 1942307 A3 20131204 (EN)

Application

EP 08000128 A 20080104

Priority

JP 2007000303 A 20070105

Abstract (en)

[origin: EP1942307A2] In an air conditioner, an occurrence of a refrigerant leakage can be immediately detected after a normal operation thereof is started. The air conditioner includes an outdoor unit having compressors 1,2, a four-way valve 3, an outdoor heat exchanger 4, an outdoor expander 5 and an outdoor air blower 20, and an indoor unit having an indoor expander 9, an indoor heat exchanger 10 and an indoor air blower, the outdoor unit being connected to the indoor unit through a liquid pipe line 30 and a gas pipe line 31. Beforehand, in a state where an appropriate quantity of refrigerant is charged, a relationship between an ambient temperature and a coefficient ζ related to a ratio between an output quantity delivered to the indoor or outdoor expander and an output quantity delivered to the compressor is obtained and stored in memory, and then, the coefficient ζ related to the ratio between the output quantity delivered to the indoor or outdoor expander and the output quantity delivered to the compressor which are obtained during operation of the air conditioner is compared with the beforehand stored value with respect to the present ambient temperature, thereby determining advisability of the refrigerant quantity.

IPC 8 full level

F25B 49/00 (2006.01); **F25B 13/00** (2006.01)

CPC (source: EP)

F25B 49/005 (2013.01); **F25B 13/00** (2013.01); **F25B 2313/0233** (2013.01); **F25B 2313/02741** (2013.01); **F25B 2500/19** (2013.01); **F25B 2500/222** (2013.01); **F25B 2700/04** (2013.01); **F25B 2700/2106** (2013.01)

Citation (search report)

- [X1] WO 2006109677 A1 20061019 - DAIKIN IND LTD [JP], et al
- [X1] EP 1065452 A2 20010103 - DENSO CORP [JP]

Cited by

CN112361555A; CN103292526A

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 1942307 A2 20080709; **EP 1942307 A3 20131204**; CN 100549573 C 20091014; CN 101216231 A 20080709; JP 2008164265 A 20080717; JP 4317878 B2 20090819

DOCDB simple family (application)

EP 08000128 A 20080104; CN 200710160862 A 20071227; JP 2007000303 A 20070105