

Title (en)

REFRIGERANT LEAKAGE DETECTING DEVICE AND REFRIGERATOR USING THE SAME

Title (de)

VORRICHTUNG ZUR ERFASSUNG VON KÄLTEMITTELLECKAGE UND DIESE VERWENDENDE KÜHLVORRICHTUNG

Title (fr)

DISPOSITIF DE DETECTION DE FUITE DE REFRIGERANT ET REFRIGERATEUR UTILISANT UN TEL DISPOSITIF

Publication

EP 1691150 A4 20110706 (EN)

Application

EP 04720265 A 20040312

Priority

- JP 2004003451 W 20040312
- JP 2003329149 A 20030919

Abstract (en)

[origin: EP1691150A1] In a refrigerator using a flammable coolant, a coolant leakage detecting device is provided with which it is possible to improve the detection accuracy of coolant leakages certainly in correspondence with input fluctuations of a compressor. When a coolant leak occurs on the low-pressure side of a refrigerating cycle, because the internal pressure of the cycle in operation is negative, air is sucked in and the power increases. When the value of this increase in an instantaneous power for determination $W_i(t)$ rises above a reference increase value G_1 , it is determined that there is a low-pressure side leak. On the other hand, when a coolant leak occurs on the high-pressure side of the refrigerating cycle, the internal pressure of the cycle in operation decreases and along with this the power decreases. When the value of this decrease in the instantaneous power for detection $W_i(t)$ exceeds a reference decrease value G_2 , it is determined that there is a coolant leak on the high-pressure side.

IPC 8 full level

F25B 49/02 (2006.01); **F25D 13/00** (2006.01); **F25B 49/00** (2006.01); **H02P 3/00** (2006.01)

CPC (source: EP KR)

F25B 49/00 (2013.01 - KR); **F25B 49/005** (2013.01 - EP); **F25B 49/02** (2013.01 - KR); **F25B 2400/12** (2013.01 - EP); **F25B 2500/222** (2013.01 - EP); **F25D 2400/04** (2013.01 - EP)

Citation (search report)

- [Y] WO 03027587 A1 20030403 - TOSHIBA KK [JP], et al
- [Y] JP 2003088168 A 20030320 - MATSUSHITA ELECTRIC IND CO LTD
- [Y] WO 03038352 A1 20030508 - TOSHIBA KK [JP], et al
- [A] JP H07294075 A 19951110 - AICHI TOKEI DENKI KK & US 2005086952 A1 20050428 - NONAKA HIKARU [JP], et al & EP 1452809 A1 20040901 - TOSHIBA KK [JP]
- See references of WO 2005028972A1

Cited by

EP4403852A1

Designated contracting state (EPC)

DE FR GB IT

DOCDB simple family (publication)

EP 1691150 A1 20060816; **EP 1691150 A4 20110706**; **EP 1691150 B1 20161123**; CN 100359264 C 20080102; CN 1764812 A 20060426; JP 2005090925 A 20050407; KR 20060058050 A 20060529; WO 2005028972 A1 20050331

DOCDB simple family (application)

EP 04720265 A 20040312; CN 200480007956 A 20040312; JP 2003329149 A 20030919; JP 2004003451 W 20040312; KR 20057018295 A 20050928