

Title (en)  
Refrigerating apparatus and control method thereof

Title (de)  
Kühlgerät und Steuerverfahren dafür

Title (fr)  
Appareil frigorifique et méthode de contrôle associée

Publication  
**EP 1548379 A1 20050629 (EN)**

Application  
**EP 04254258 A 20040715**

Priority  
JP 2003427025 A 20031224

Abstract (en)  
A refrigerating apparatus (1) and a control method thereof which can rapidly detect the fact that no high pressure refrigerant is introduced into an oil equalizing tube (11) due to failure of an opening/closing valve (13), etc., thereby being capable of preventing the flow of oil mist, and thus, preventing damage to compressors (3, 4). The refrigerating apparatus includes a plurality of compressors (3, 4) connected in parallel in a refrigerant circuit (2), an oil equalizing tube (11) adapted to connect shells of the compressors, a bypass tube (12) adapted to connect the oil equalizing tube to a discharge refrigerant line (8) of the compressors, and an opening/closing valve (13) arranged at an intermediate portion of the bypass tube. The bypass tube, which is positioned between the opening/closing valve and the oil equalizing tube, is provided with a temperature sensor (14) adapted to detect a temperature of the bypass tube itself or an internal temperature of the bypass tube. <IMAGE>

IPC 1-7  
**F25B 31/00**

IPC 8 full level  
**F25B 1/00** (2006.01); **F04B 49/24** (2006.01); **F25B 31/00** (2006.01); **F25B 49/00** (2006.01)

CPC (source: EP KR)  
**F04B 49/24** (2013.01 - EP); **F25B 1/00** (2013.01 - KR); **F25B 31/004** (2013.01 - EP); **F25B 49/00** (2013.01 - KR); **F25B 2400/04** (2013.01 - EP); **F25B 2400/075** (2013.01 - EP); **F25B 2500/06** (2013.01 - EP); **F25B 2700/1931** (2013.01 - EP); **F25B 2700/2101** (2013.01 - EP); **F25B 2700/2105** (2013.01 - EP)

Citation (applicant)  
JP H04222354 A 19920812 - DAIKIN IND LTD

Citation (search report)  
• [X] EP 1367259 A1 20031203 - TOSHIBA CARRIER CORP [JP]  
• [A] WO 03085332 A1 20031016 - DAIKIN IND LTD [JP], et al  
• [A] EP 1293734 A1 20030319 - TEKNO GES FUER KALTTECHNIK MB [DE]  
• [A] US 2002073721 A1 20020620 - SEO HYEONG-JOON [KR], et al  
• [A] US 2003010046 A1 20030116 - FREUND PETER W [US], et al  
• [A] WO 0246664 A1 20020613 - DAIKIN IND LTD [JP], et al  
• [A] EP 1170558 A2 20020109 - SANYO ELECTRIC CO [JP]  
• [A] EP 0838640 A2 19980429 - MATSUSHITA REFRIGERATION [JP]  
• [A] US 5634345 A 19970603 - ALSENZ RICHARD H [US]

Designated contracting state (EPC)  
DE FR GB

DOCDB simple family (publication)  
**EP 1548379 A1 20050629**; **EP 1548379 B1 20070919**; CN 1313782 C 20070502; CN 1637361 A 20050713; DE 602004009027 D1 20071031; DE 602004009027 T2 20080619; JP 2005188771 A 20050714; JP 3946191 B2 20070718; KR 100539593 B1 20051229; KR 20050065256 A 20050629

DOCDB simple family (application)  
**EP 04254258 A 20040715**; CN 200410063856 A 20040713; DE 602004009027 T 20040715; JP 2003427025 A 20031224; KR 20040053091 A 20040708