



(11)

EP 2 679 921 A3

(12)

## EUROPEAN PATENT APPLICATION

(88) Date of publication A3:  
06.01.2016 Bulletin 2016/01

(51) Int Cl.:

**F24F 1/06** (2011.01) **F25B 9/00** (2006.01)  
**F25B 13/00** (2006.01) **F24F 1/46** (2011.01)  
**F24F 3/14** (2006.01) **F24F 11/00** (2006.01)  
**F25B 49/00** (2006.01)

(43) Date of publication A2:  
01.01.2014 Bulletin 2014/01

(21) Application number: 13160066.0

(22) Date of filing: 19.03.2013

(84) Designated Contracting States:  
**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**

Designated Extension States:  
**BA ME**

(30) Priority: 27.06.2012 JP 2012143606

(71) Applicant: **Mitsubishi Electric Corporation**  
**Chiyoda-ku**  
**Tokyo 100-8310 (JP)**

(72) Inventors:

- Suzuki, Yasuhiro**  
**Tokyo, 100-8310 (JP)**
- Makino, Hiroaki**  
**Tokyo, 100-8310 (JP)**
- Maeyama, Hideaki**  
**Tokyo, 100-8310 (JP)**
- Ishii, Minoru**  
**Japan, 100-8310 (JP)**

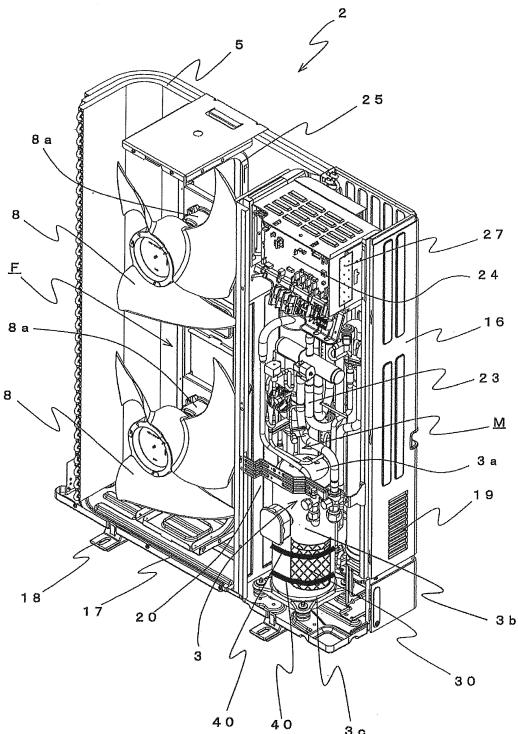
(74) Representative: **Pfenning, Meinig & Partner GbR**  
**Patent- und Rechtsanwälte**  
**Theresienhöhe 11a**  
**80339 München (DE)**

## (54) Refrigeration cycle apparatus

(57) From recent study of combustion of an HFC refrigerant that has a low GWP but is flammable, it has been found that the combustion scale tends to increase as the absolute humidity increases. In a refrigeration cycle apparatus using such a refrigerant, it is necessary to increase safety against unexpected refrigerant leakage in consideration of this tendency.

This refrigeration cycle apparatus includes a compressor having a compression mechanism section in an enclosed container and configured to compress and discharge a refrigerant so as to circulate the refrigerant in a refrigerant circuit, and an outdoor unit installed outdoors and having a housing divided by a partition plate into a fan chamber and a machine chamber including the compressor. The refrigerant is a flammable HFC refrigerant. The refrigeration cycle apparatus further includes a desiccant attached in thermal contact with a surface of the enclosed container of the compressor whose temperature is increased by a gas refrigerant compressed by the compression mechanism section during operation of the compressor so that the temperature becomes a high temperature near a temperature of the compressed gas refrigerant, and adsorbs water from air in the machine chamber during non-operation of the outdoor unit.

FIG. 3





## EUROPEAN SEARCH REPORT

Application Number

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X,D	JP 2000 105003 A (SANYO ELECTRIC CO) 11 April 2000 (2000-04-11) * paragraph [0001] - paragraph [0026]; figures 1-3 * -----	1-8	INV. F24F1/06 F25B9/00 F25B13/00 F24F1/46
A	JP H08 944 A (DAIKIN IND LTD) 9 January 1996 (1996-01-09) * page 2 - page 3; figures 1-4 * -----	1-8	F24F3/14 F24F11/00 F25B49/00
A	EP 1 681 518 A1 (DAIKIN IND LTD [JP]) 19 July 2006 (2006-07-19) * page 5 - page 15; figures 1-26 * -----	1-8	
			TECHNICAL FIELDS SEARCHED (IPC)
			F25B F24F
The present search report has been drawn up for all claims			
Place of search	Date of completion of the search	Examiner	
Munich	27 November 2015	Amous, Moez	
CATEGORY OF CITED DOCUMENTS			
X : particularly relevant if taken alone	T : theory or principle underlying the invention		
Y : particularly relevant if combined with another document of the same category	E : earlier patent document, but published on, or after the filing date		
A : technological background	D : document cited in the application		
O : non-written disclosure	L : document cited for other reasons		
P : intermediate document	& : member of the same patent family, corresponding document		

5  
**ANNEX TO THE EUROPEAN SEARCH REPORT  
ON EUROPEAN PATENT APPLICATION NO.**

EP 13 16 0066

10  
 This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.  
 The members are as contained in the European Patent Office EDP file on  
 The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

27-11-2015

	Patent document cited in search report		Publication date		Patent family member(s)		Publication date
15	JP 2000105003	A	11-04-2000	NONE			
	JP H08944	A	09-01-1996	JP JP	H08944 A 3505786 B2		09-01-1996 15-03-2004
20	EP 1681518	A1	19-07-2006	AU CN EP JP JP KR US WO	2004280427 A1 1864034 A 1681518 A1 3649236 B2 2005114294 A 20060085648 A 2007125115 A1 2005036062 A1		21-04-2005 15-11-2006 19-07-2006 18-05-2005 28-04-2005 27-07-2006 07-06-2007 21-04-2005
25							
30							
35							
40							
45							
50							
55							

EPO FORM P0459  
 For more details about this annex : see Official Journal of the European Patent Office, No. 12/82