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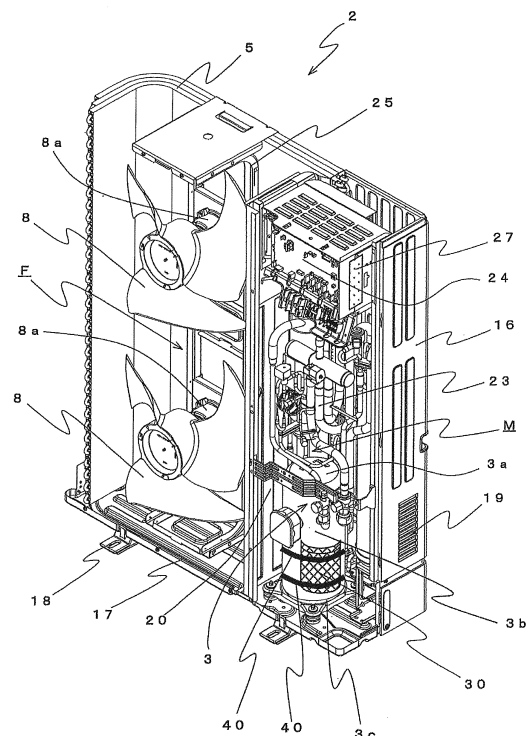
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**(54) Refrigeration cycle apparatus**

(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

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## EUROPEAN SEARCH REPORT

Application Number  
EP 13 16 0066

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 F24F3/14 F24F11/00 F25B49/00
A	JP H08 944 A (DAIKIN IND LTD) 9 January 1996 (1996-01-09) * page 2 - page 3; figures 1-4 *	1-8	
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 Munich		Date of completion of the search 27 November 2015	Examiner Amous, Moez
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

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

EP 13 16 0066

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The members are as contained in the European Patent Office EDP file on  
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27-11-2015

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

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