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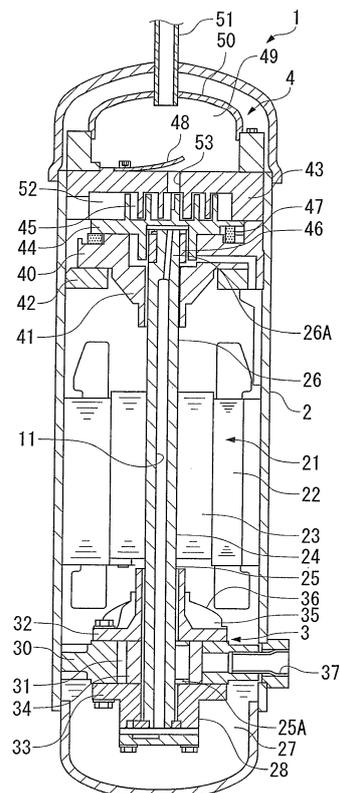
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(54) **Compressor**

(57) A compressor (1) including a hermetic housing (2), a low stage-side compression mechanism (3) and a high stage-side compression mechanism (4) provided in the hermetic housing (2); and an electric motor (21) for driving the low stage-side compression mechanism (3) and the high stage-side compression mechanism (4). The low stage-side compression mechanism (3) is a rotary type compression mechanism, and the high stage-side compression mechanism (4) is a scroll type compression mechanism. The suction shutoff of the scroll type compression mechanism is accomplished when a rotor (34) of the rotary type compression mechanism is at a position (A) corresponding to the bottom dead center, at a position (B) of being rotated through 90 degrees from the bottom dead center, or between the positions (A and B).

FIG. 1



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EUROPEAN SEARCH REPORT

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DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
A,D	JP H05 87074 A (MITSUBISHI HEAVY IND LTD) 6 April 1993 (1993-04-06) * abstract; figure 1 * -----	1-8	INV. F04C23/00 F04C18/02 F04C18/356 F04C29/00
A	US 5 322 424 A (FUJIO KATUHARA [JP]) 21 June 1994 (1994-06-21) * figures 18,19,20a,20b * * column 6, line 50 - column 7, line 10 * * column 8, line 41 - column 9, line 32 * -----	1-8	
A	EP 1 669 542 A1 (DAIKIN IND LTD [JP]) 14 June 2006 (2006-06-14) * paragraph [0033] - paragraph [0035]; figure 2 * * paragraph [0054] - paragraph [0064] * -----	1-8	
The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (IPC)
			F04C
Place of search		Date of completion of the search	Examiner
Munich		19 September 2014	Papastefanou, M
CATEGORY OF CITED DOCUMENTS		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	
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			

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

EP 08 16 6799

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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.

19-09-2014

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
JP H0587074 A	06-04-1993	NONE	

US 5322424 A	21-06-1994	CA 2099988 A1	13-05-1993
		JP 2699724 B2	19-01-1998
		JP H05133366 A	28-05-1993
		US 5322424 A	21-06-1994
		WO 9310356 A1	27-05-1993

EP 1669542 A1	14-06-2006	EP 1669542 A1	14-06-2006
		JP 3674625 B2	20-07-2005
		JP 2005106046 A	21-04-2005
		US 2007053782 A1	08-03-2007
		WO 2005026499 A1	24-03-2005

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EPO FORM P0459

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

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