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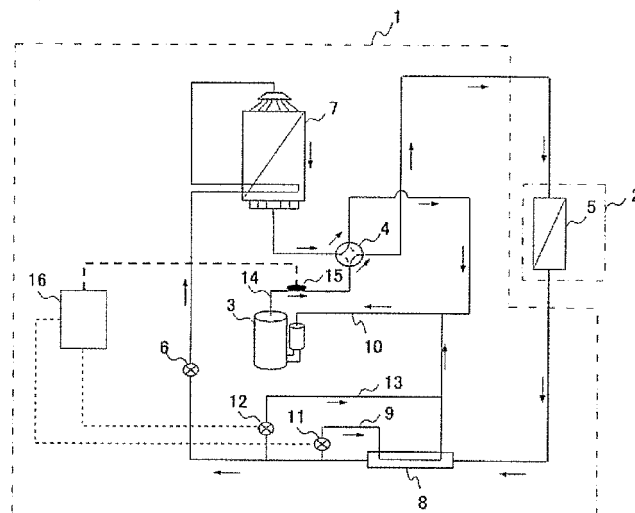
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(54) Refrigeration cycle apparatus

(57) A refrigeration cycle apparatus includes a second bypass pipe 13 and control means 16, one end of the second bypass pipe 13 is connected to a portion of the pipe extending from the supercooling heat exchanger 8 to the decompressing means 6, the other end of the second bypass pipe 13 is connected to a portion of the pipe extending from the evaporator 7 to the compressor 3, second flow rate adjusting means 11 is connected to the second bypass pipe 13, the second bypass pipe 13 does

not exchange heat of a refrigerant which flows out from the second flow rate adjusting means with heat of a refrigerant flowing through the supercooling heat exchanger 8, the first flow rate adjusting means and the second flow rate adjusting means are operated by a temperature detected by the control means by means of the temperature sensor 15, and the refrigeration cycle apparatus swiftly suppress the abrupt discharge temperature rise while maintaining a stable operation of the refrigeration cycle.

[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)
X	JP 2010 002173 A (DAIKIN IND LTD) 7 January 2010 (2010-01-07)	1-5	INV. F25B49/02 F25B40/02
Y	* abstract; figures *	6	
X	US 5 095 712 A (NARREAU PETER P [US]) 17 March 1992 (1992-03-17) * column 2, line 9 - column 3, line 55; figure 1 *	1	
X	EP 1 813 887 A1 (SANYO ELECTRIC CO [JP]) 1 August 2007 (2007-08-01)	1-5	
Y	* figure 4 *	6	
Y	JP 2010 091135 A (TOKYO ELECTRIC POWER CO) 22 April 2010 (2010-04-22) * abstract; figure 1 *	6	
A	US 2003/010046 A1 (FREUND PETER W [US] ET AL) 16 January 2003 (2003-01-16) * the whole document *	1-6	TECHNICAL FIELDS SEARCHED (IPC)
			F25B
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 23 November 2012	Examiner Ritter, Christoph
<p>CATEGORY OF CITED DOCUMENTS</p> <p>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</p> <p>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</p>			

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

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The members are as contained in the European Patent Office EDP file on
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23-11-2012

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
JP 2010002173	A	07-01-2010	NONE	

US 5095712	A	17-03-1992	AU 647615 B2	24-03-1994
			AU 1594992 A	05-11-1992
			BR 9201584 A	15-12-1992
			DE 4213011 A1	05-11-1992
			FR 2676115 A1	06-11-1992
			JP 2601972 B2	23-04-1997
			JP 5164419 A	29-06-1993
			US 5095712 A	17-03-1992

EP 1813887	A1	01-08-2007	EP 1813887 A1	01-08-2007
			US 2007193290 A1	23-08-2007

JP 2010091135	A	22-04-2010	NONE	

US 2003010046	A1	16-01-2003	DE 10216644 A1	30-01-2003
			JP 4068905 B2	26-03-2008
			JP 2003042573 A	13-02-2003
			US 2003010046 A1	16-01-2003
