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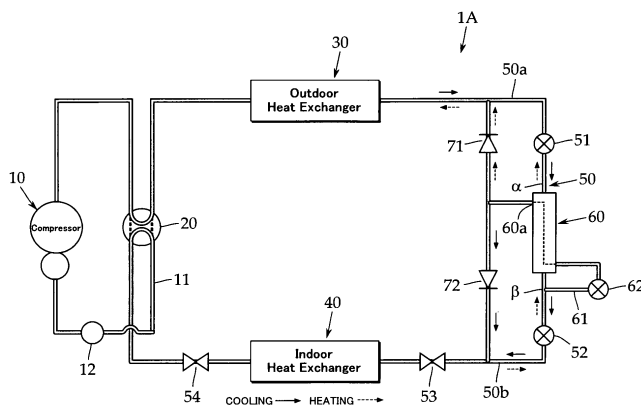
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(54) **Air conditioner**

(57) In an air conditioner having a double-pipe heat exchanger in a refrigerating cycle, the degree of opening of a bypass expansion valve is controlled easily without liquid return to a compressor and without considering the state of a low-pressure two-phase refrigerant in the double-pipe heat exchanger. In the air conditioner including a refrigerating cycle 1A in which a heating expansion valve 51 is provided between the outdoor heat exchanger 30 and the double-pipe heat exchanger 60; a cooling expansion valve 52 is provided between the indoor heat exchanger 40 and the double-pipe heat exchanger 60; and in the double-pipe heat exchanger 60, a high-pres-

sure liquid refrigerant flowing in a liquid-side refrigerant pipe 50 is heat-exchanged with a low-pressure two-phase refrigerant that is formed by decompressing some of the high-pressure liquid refrigerant by a bypass expansion valve 62, a low-pressure refrigerant outflow portion 60a of the double-pipe heat exchanger 60 is connected to a refrigerant pipe portion 50a between the outdoor heat exchanger 30 and the heating expansion valve 51 via a first check valve 71, and is connected to a refrigerant pipe portion 50b between the indoor heat exchanger 40 and the cooling expansion valve 52 via a second check valve 72.

FIG. 1





EUROPEAN SEARCH REPORT

Application Number
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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	EP 0 855 562 A1 (DAIKIN IND LTD [JP]) 29 July 1998 (1998-07-29) * sentence 3, paragraph 5 - sentence 15, paragraph 6; figure 1A * -----	1-5	INV. F25B13/00 F25B40/02
			TECHNICAL FIELDS SEARCHED (IPC)
			F25B F28D
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 31 May 2011	Examiner Gaspar, Ralf
<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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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
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31-05-2011

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