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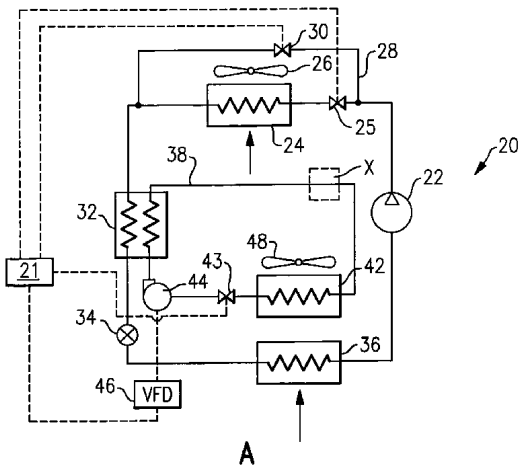
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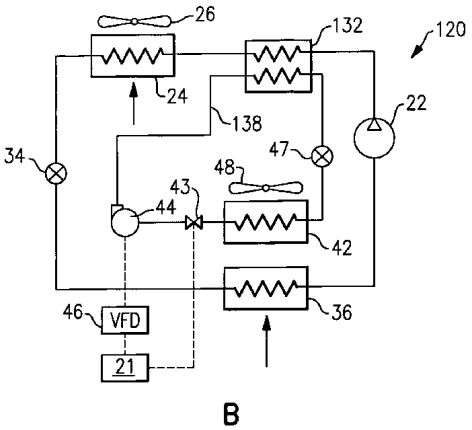
Declaration under Rule 4.17:
— *of inventorship (Rule 4.17(iv))*

[Continued on next page]

(54) Title: CLOSED-LOOP DEHUMIDIFICATION CIRCUIT FOR REFRIGERANT SYSTEM



A



B

(57) Abstract: A closed-loop reheat circuit decoupled from a main refrigerant circuit is provided as part of a refrigerant system. In the closed-loop reheat circuit refrigerant is flown through an auxiliary heat exchanger, at which it transfers heat to refrigerant in the main circuit, increasing its cooling and dehumidification potential prior to entering an evaporator. The closed-loop circuit also includes a reheat heat exchanger that is placed in the path of at least a portion of airflow having passed over an evaporator. The reheat heat exchanger reheats air supplied to a conditioned space to a desired temperature after sufficient amount of moisture has been removed from the air in the evaporator to provide a comfortable humidity level. By utilizing the closed-loop reheat circuit, a control for the overall refrigerant system becomes less complex and more flexible, and the refrigerant system operation turns out to be more reliable and satisfying a variety of environmental conditions and potential applications. Various features and options of the decoupled reheat circuit concept are also disclosed.

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A. CLASSIFICATION OF SUBJECT MATTER
IPC: **F25D 17/06**(2006.01)

USPC: 62/90,93,95,173,176.1,238.6
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

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Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
East

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 6,701,723 B1 (DOBMEIER et al) 09 March 2004, see figure 1.	1-24

☐ Further documents are listed in the continuation of Box C. ☐ See patent family annex.

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