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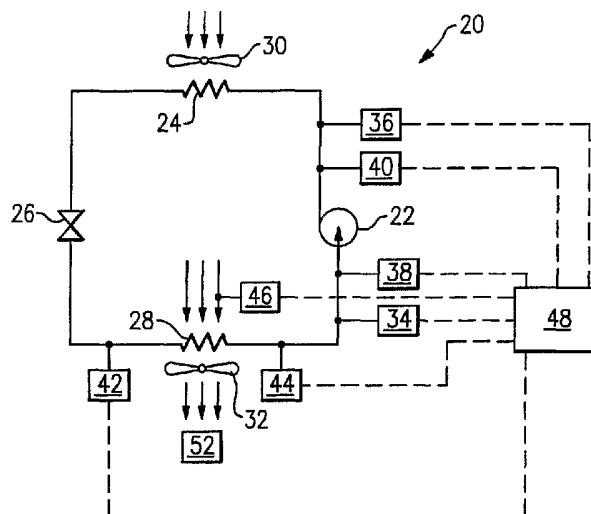
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[Continued on next page]

(54) Title: METHOD FOR ESTIMATING INLET AND OUTLET AIR CONDITIONS OF AN HVAC SYSTEM



(57) Abstract: The temperature of the air exiting an evaporator and the relative humidity of the air entering and exiting the evaporator can be calculated by using existing sensors in a vapor compression system. The temperature of the air exiting the evaporator is calculated by using the detected temperature of the air entering the evaporator, the saturation temperature of the air, and a bypass factor. The relative humidity of the air entering and exiting the evaporator are then estimated using a psychrometric chart. By using the existing sensors to determine the temperature of the air exiting the evaporator and the relative humidity of the air entering and exiting the evaporator, the load requirement of the vapor compression system can be calculated without employing additional sensors. The system capacity of the vapor compression system can be matched to the load requirement to allow the effective use of electric power.

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B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

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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)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5,435,146 A (CLARK) 25 July 1995 (25.07.1995), see entire document.	1,2,3,11
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Y		4,5
Y	JP 58-168834 A (MITSUI) 05 October 1983 (05.10.1983), see entire document.	4,5

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☐ See patent family annex.

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