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(54) **FROSTLESS HEAT PUMP HAVING THERMAL EXPANSION VALVES**

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(57) **ABSTRACT**

A heat pump system having an operable relationship for transferring heat between an exterior atmosphere and an interior atmosphere via a fluid refrigerant and further having a compressor, an interior heat exchanger, an exterior heat exchanger, a heat pump reversing valve, an accumulator, a thermal expansion valve having a remote sensing bulb disposed in heat transferable contact with the refrigerant piping section between said accumulator and said reversing valve, an outdoor temperature sensor, and a first means for heating said remote sensing bulb in response to said outdoor temperature sensor thereby opening said thermal expansion valve to raise suction pressure in order to mitigate defrosting of said exterior heat exchanger wherein said heat pump continues to operate in a heating mode.

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(51) **Int. Cl.**⁷ **F25D 21/06**

(52) **U.S. Cl.** **62/156; 62/324.1**

(58) **Field of Search** **62/225, 324.1, 62/156**

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10 Claims, 3 Drawing Sheets

