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(54) Title: LOW SUCTION PRESSURE PROTECTION FOR REFRIGERANT VAPOR COMPRESSION SYSTEM

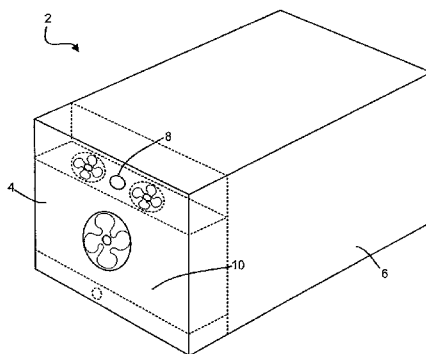


FIG. 1

(57) Abstract: The present disclosure provides a refrigerant vapor compression system includes a compressor (12) having a suction port and a discharge port, a refrigerant heat rejection heat exchanger (24) operatively coupled downstream to the discharge port of the compressor, a refrigerant heat absorption heat exchanger (42) operatively coupled downstream to the refrigerant heat rejection heat exchanger, a compressor suction inlet line connecting the refrigerant heat absorption heat exchanger to the suction port of the compressor, and an adiabatic expansion device (54) operatively coupled to the suction inlet line. A sensor operatively coupled to the suction inlet line measures a superheat value of the refrigerant. The refrigerant vapor compression system further includes a controller (60) in communication with the sensor. The controller is configured to operate the refrigerant vapor compression system in a first mode when a pressure of the refrigerant downstream of the adiabatic expansion device is greater than a threshold value, and operate the refrigerant vapor compression system in a second mode when the pressure of the refrigerant downstream of the adiabatic expansion device is less than the threshold value. The compressor continues to operate in both the first mode and the second mode.

