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(54) **Title:** CAPACITY MODULATION OF REFRIGERANT VAPOR COMPRESSION SYSTEM

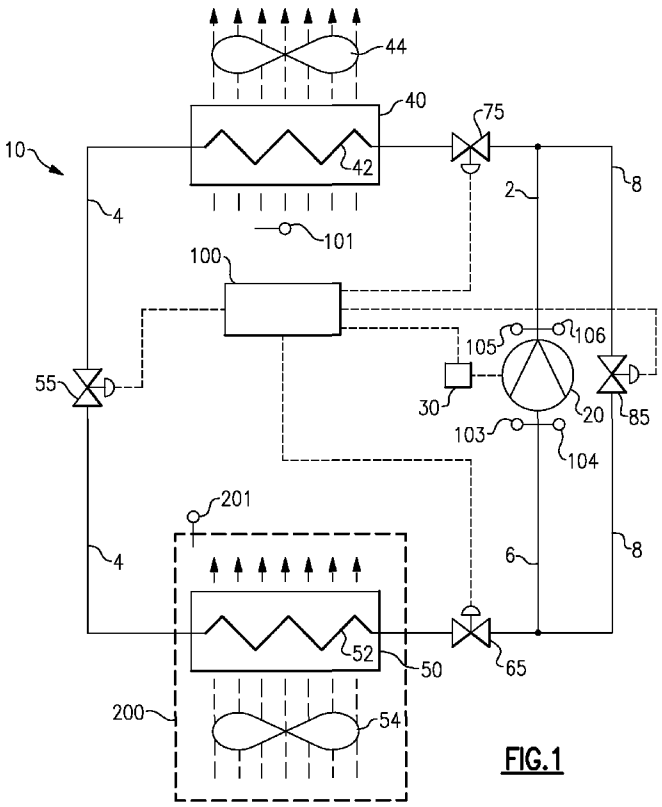


FIG.1

(57) **Abstract:** A carbon dioxide refrigerant vapor compression system and a method of operating that system are provided. The refrigerant vapor compression system includes a compression device, a refrigerant heat rejection heat exchanger and a refrigerant heat absorption heat exchanger disposed in a primary refrigerant circuit, and a compression device unload circuit in parallel refrigerant flow relationship with the primary refrigerant circuit. At full load, the primary refrigerant circuit is open, but the unload circuit is closed. To modulate capacity, a controller alternates operation between a first cycle for a first period of time wherein the primary circuit is open and the unload circuit is closed and a second cycle for a second period of time wherein the primary circuit is closed and the unload circuit is open.

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