



(57) Abrégé(suite)/Abstract(continued):

accumulated in a condensation reservoir. An evaporation stage is provided in which the CO₂ refrigerant is expanded to a gaseous state to absorb heat from a fluid for refrigeration, with at least a portion of CO₂ refrigerant exiting the evaporation stage being directed to a supra-compression circuit comprising a supra-compression stage in which the portion of CO₂ refrigerant is compressed. A heat exchanger is provided by which the compressed CO₂ refrigerant is in a heat-exchange relation with a secondary-refrigerant circuit, such that the compressed CO₂ refrigerant releases heat to a secondary refrigerant used for heating purposes. Pressure-regulating means control a pressure of the compressed CO₂ refrigerant being returned to the condensation stage.

