Title (en)
CLOSED-LOOP DEHUMIDIFICATION CIRCUIT FOR REFRIGERANT SYSTEM

Title (de)
ENTFEUCHTUNGSREGELKREIS FÜR KÜHLSYSTEM

Title (fr)
CIRCUIT DE DESHUMIDIFICATION EN BOUCLE FERMEE POUR UN SYSTEME FRIGORIGENE

Publication
EP 1915580 A2 20080430 (EN)

Application
EP 05777509 A 20050728

Priority
US 2005027090 W 20050728

Abstract (en)
[origin: WO2007018524A2] A closed-loop reheat circuit decoupled from a main refrigerant circuit is provided as part of a refrigerant system. In the closed-loop reheat circuit refrigerant is flown through an auxiliary heat exchanger, at which it transfers heat to refrigerant in the main circuit, increasing its cooling and dehumidification potential prior to entering an evaporator. The closed-loop circuit also includes a reheat heat exchanger that is placed in the path of at least a portion of airflow having passed over an evaporator. The reheat heat exchanger reheats air supplied to a conditioned space to a desired temperature after sufficient amount of moisture has been removed from the air in the evaporator to provide a comfortable humidity level. By utilizing the closed-loop reheat circuit, a control for the overall refrigerant system becomes less complex and more flexible, and the refrigerant system operation turns out to be more reliable and satisfying a variety of environmental conditions and potential applications. Various features and options of the decoupled reheat circuit concept are also disclosed.

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