

Title (en)

REFRIGERANT CHARGE AND CONTROL METHOD FOR HEAT PUMP SYSTEMS

Title (de)

KÜHLMITTELLADUNGS- UND -STEUERUNGSVERFAHREN FÜR WÄRMEPUMPENSYSTEME

Title (fr)

CHARGE DE RÉFRIGÉRANT ET PROCÉDÉ DE COMMANDE POUR DES SYSTÈMES À POMPE À CHALEUR

Publication

EP 3118547 A1 20170118 (EN)

Application

EP 16177127 A 20160630

Priority

US 201514798949 A 20150714

Abstract (en)

A heat pump system (10) comprises a compressor (16), at least one expansion valve (22; 36), an accumulator (18) for storing a volume of liquid refrigerant therein, a liquid refrigerant indicator connected to the accumulator (18) to indicate an appropriate refrigerant charge in cooling and heating modes, and a controller (28). The controller (28) is configured to determine a target compressor discharge pressure based on measured outdoor air temperature and control the compressor discharge pressure by modulating the position of the at least one expansion valve (22; 36), wherein the higher the target discharge pressure target, the less liquid refrigerant is left in the accumulator (18). The accumulator (18) can be sized to always have capacity to hold excess refrigerant during heating operations, and can include a charge level indicator so as to allow proper charge of the system (10) in the field without additional tools.

IPC 8 full level

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CPC (source: CN EP US)

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Designated contracting state (EPC)

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