

Title (en)

Method and apparatus for monitoring refrigerant-cycle systems

Title (de)

Verfahren und Vorrichtung zur Überwachung von Kühlkreissystemen

Title (fr)

Procédé et appareil pour la surveillance de systèmes à cycle réfrigérant

Publication

EP 1914481 A2 20080423 (EN)

Application

EP 07076043 A 20050627

Priority

- EP 05790996 A 20050627
- US 91622304 A 20040811
- US 91622204 A 20040811
- US 13056905 A 20050517
- US 13056205 A 20050517
- US 13087105 A 20050517
- US 13060105 A 20050517

Abstract (en)

A real-time monitoring system that monitors various aspects of the operation of a refrigerant-cycle system is described. In one embodiment, the system includes a processor that measures power provided to the refrigerant-cycle system and that gathers data from one or more sensors and uses the sensor data to calculate a figure of merit related to the efficiency of the system. In one embodiment, the sensors include one or more of the following sensors: a suction line temperature sensor, a suction line pressure sensor, a suction line flow sensor, a hot gas line temperature sensor, a hot gas line pressure sensor, a hot gas line flow sensor, a liquid line temperature sensor, a liquid line pressure sensor, a liquid line flow sensor. In one embodiment, the sensors include one or more of an evaporator air temperature input sensor, an evaporator air temperature output sensor, an evaporator airflow sensor, an evaporator air humidity sensor, and a differential pressure sensor. In one embodiment, the sensors include one or more of a condenser air temperature input sensor, a condenser air temperature output sensor, and a condenser air flow sensor, an evaporator air humidity sensor. In one embodiment, the sensors include one or more of an ambient air sensor and an ambient humidity sensor.

IPC 8 full level

F24F 11/00 (2006.01); **F25B 49/02** (2006.01)

CPC (source: EP US)

F24F 11/30 (2017.12 - EP); **F24F 11/47** (2017.12 - EP US); **F24F 11/52** (2017.12 - EP US); **F25B 49/005** (2013.01 - EP); **F25B 2500/18** (2013.01 - EP); **F25B 2500/19** (2013.01 - EP); **F25B 2700/151** (2013.01 - EP)

Cited by

FR2941199A1; CN102748827A; EP2196740A3; US8775123B2; US9441542B2; US8771952B2; WO2023043363A1

Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU MC NL PL PT RO SE SI SK TR

DOCDB simple family (publication)

EP 1914483 A2 20080423; **EP 1914483 A3 20080709**; EP 1914481 A2 20080423; EP 1914481 A3 20080723; EP 1914482 A2 20080423; EP 1914482 A3 20080709; MX 2007001671 A 20070423; RU 2007108788 A 20080920

DOCDB simple family (application)

EP 07076045 A 20050627; EP 07076043 A 20050627; EP 07076044 A 20050627; MX 2007001671 A 20050627; RU 2007108788 A 20050627