

Title (en)

CO2 REFRIGERANT SYSTEM WITH BOOSTER CIRCUIT

Title (de)

CO2-KÄLTEMITTELSYSTEM MIT VERSTÄRKERKREISLAUF

Title (fr)

SYSTÈME DE RÉFRIGÉRANT À CO<SB>2</SB> AVEC CIRCUIT INTENSIFICATEUR

Publication

EP 2150755 A4 20110824 (EN)

Application

EP 07761081 A 20070423

Priority

US 2007067168 W 20070423

Abstract (en)

[origin: WO2008130412A1] A refrigerant system, which utilizes CO₂ as a refrigerant, includes a main closed-loop refrigerant circuit and a booster closed-loop refrigerant circuit. A heat accepting heat exchanger, which provides extra cooling for the refrigerant circulating through the main circuit, and thus improves refrigerant system performance, also serves as a shared component coupling the two circuits through heat transfer interaction. Various schematics and configurations for the booster circuit, which may be combined with other performance enhancement features, are disclosed. Additional benefits for economizer function, "liquid-to-suction" heat exchanger, intercooling and liquid injection are also presented. The booster circuit may also contain CO₂ refrigerant.

IPC 8 full level

F25B 1/00 (2006.01)

CPC (source: EP US)

F25B 1/10 (2013.01 - EP US); **F25B 7/00** (2013.01 - EP US); **F28F 9/0234** (2013.01 - EP US); **F25B 40/00** (2013.01 - EP US); **F25B 40/02** (2013.01 - EP US); **F25B 2309/061** (2013.01 - EP US); **F25B 2400/074** (2013.01 - EP US); **F25B 2400/13** (2013.01 - EP US); **F28D 2021/0068** (2013.01 - EP US)

Citation (search report)

- [XYI] WO 2006027330 A1 20060316 - IARP S R L [IT], et al
- [XI] EP 1701112 A1 20060913 - MITSUBISHI ELECTRIC CORP [JP]
- [XI] JP 2001091074 A 20010406 - SANYO ELECTRIC CO
- [Y] US 2002179294 A1 20021205 - GUPTE NEELKANTH SHRIDHAR [US]
- See references of WO 2008130412A1

Citation (examination)

- DE 10254016 A1 20040603 - BEHR GMBH & CO KG [DE]
- US 5408843 A 19950425 - LUKAS HENRY [US], et al

Designated contracting state (EPC)

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DOCDB simple family (publication)

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DOCDB simple family (application)

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