Title (en)

PREVENTION OF REFRIGERANT SOLIDIFICATION

Title (de)

VERHINDERUNG VON KÄLTEMITTELERSTARRUNG

Title (fr)

PRÉVENTION DE LA SOLIDIFICATION D'UN FLUIDE FRIGORIGÈNE

Publication

EP 2135017 A4 20100310 (EN)

Application

EP 07758235 A 20070309

Priority

US 2007063662 W 20070309

Abstract (en)

[origin: WO2008111968A1] A refrigerant system may utilize CO₂ as a refrigerant. Should the sensed operating conditions indicate that the refrigerant might be approaching a condition at which the refrigerant could solidify, corrective actions are taken to prevent refrigerant transformation to a solid thermodynamic state. In one embodiment, hot gas from a compressor discharge is bypassed to a location upstream of the evaporator. In another embodiment, the high-side pressure of a refrigerant system is adjusted. In yet another embodiment, an additional charge of refrigerant is delivered on demand into the refrigerant system. In still another embodiment, a defrost cycle is initiated on demand. These embodiments prevent the refrigerant from approaching the conditions at which it may solidify.

IPC 8 full level

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CPC (source: EP US)

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Citation (search report)

- [XI] US 5042262 A 19910827 - GYGER ROGER F [US], et al
- [A] EP 1422487 A2 20040526 - YORK REFRIGERATION APS [DK]
- [A] JP 2004308972 A 20041104 - MAEKAWA SEISAKUSHO KK
- [E] EP 1939548 A1 20080702 - MAEKAWA SEISAKUSHO KK [JP], et al
- [A] US 5199275 A 19930406 - MARTIN PATRICK S [US]
- See references of WO 2008111968A1

Designated contracting state (EPC)

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Designated extension state (EPC)

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DOCDB simple family (publication)

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DOCDB simple family (application)

US 2007063662 W 20070309; CN 200780052086 A 20070309; EP 07758235 A 20070309; HK 10107852 A 20100817; US 52771907 A 20070309