

Title (en)

DETECTING SYSTEM FOR DETECTING AN INSUFFICIENT AMOUNT OF REFRIGERANT IN A COOLING APPARATUS AND COMPRESSOR CONTROL SYSTEM INCORPORATING SAME

Publication

EP 0488775 A3 19920923 (EN)

Application

EP 91311098 A 19911129

Priority

JP 33706490 A 19901130

Abstract (en)

[origin: EP0488775A2] A detecting system is provided for detecting an insufficient amount of refrigerant in a cooling apparatus having a refrigerant circuit (11) which includes a compressor (12), a condenser (13) and an evaporator (16). The system has a refrigerant state detecting sensor (19, 30) provided in a high-pressure side path of the refrigerant circuit (11) for detecting an insufficient amount of refrigerant in the circuit (11) by sensing a mixing state of refrigerant in a liquid phase and refrigerant in a vapor phase. The detecting system is incorporated into a compressor control system having a compressor deactivating circuit coupled to the refrigerant state detecting sensor (19, 30) for deactivating the compressor (12) in response to a signal provided by the refrigerant state detecting sensor (19, 30). The refrigerant state detecting sensor (19, 30) determines that an insufficient amount of refrigerant exists at an early stage by detecting the mixing state of refrigerant. Since the compressor (12) is stopped at an earlier stage than in conventional systems, undesirable drive of the compressor (12) and damage to the compressor (12) can be prevented.

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CPC (source: EP)

F25B 41/006 (2013.01); **F25B 49/005** (2013.01); **F25B 2500/222** (2013.01)

Citation (search report)

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