

Title (en)  
REFRIGERATION CYCLE APPARATUS

Title (de)  
KÄLTEKREISLAUFVORRICHTUNG

Title (fr)  
APPAREIL À CYCLE DE RÉFRIGÉRATION

Publication  
**EP 2679930 A4 20150429 (EN)**

Application  
**EP 11859245 A 20110222**

Priority  
JP 2011053839 W 20110222

Abstract (en)  
[origin: EP2679930A1] A refrigerating cycle system is provided with a compressor 1, an outdoor heat exchanger 2, an expansion valve 3 capable of controlling an opening thereof, and an indoor heat exchanger 4. The refrigerating cycle system is further provided with a bypass flow path 11 for causing a refrigerant in the middle of compression in the compressor to bypass toward a suction side of the compressor; a solenoid valve 12 for opening or closing the bypass flow path; and a controller 20 for controlling open state time of the solenoid valve, and closed state time thereof to adjust a flow rate of a refrigerant discharged from the compressor into a refrigerating cycle, thereby executing a capacity-control. The controller executes a control on the basis of a duty ratio, that is, a ratio of the open time of the solenoid valve against a duty period representing the sum of the open time of the solenoid valve, and the closed time thereof, and further, if a pressure on the suction side of the compressor when the solenoid valve is in the state is higher than a suction pressure before the solenoid valve is in the state by a allowable deviation, the controller controls the solenoid valve so as to be in the closed state, the closed time being decided on the basis of the duty period.

IPC 8 full level  
**F25B 1/00** (2006.01); **F25B 1/04** (2006.01)

CPC (source: EP)  
**F25B 49/022** (2013.01); **F25B 13/00** (2013.01); **F25B 2313/0314** (2013.01); **F25B 2313/0315** (2013.01); **F25B 2600/0261** (2013.01); **F25B 2600/2513** (2013.01); **F25B 2600/2521** (2013.01); **F25B 2700/2104** (2013.01); **F25B 2700/2106** (2013.01)

Citation (search report)  
• [A] WO 2007050063 A1 20070503 - CARRIER CORP [US], et al  
• [IAY] WO 2008147532 A1 20081204 - COMPUTER PROCESS CONTROLS INC [US], et al  
• [A] EP 1087142 A2 20010328 - COPELAND CORP [US]  
• [Y] US 5224354 A 19930706 - ITO TAKESHI [JP], et al  
• See references of WO 2012114454A1

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DOCDB simple family (publication)  
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DOCDB simple family (application)  
**EP 11859245 A 20110222**; CN 201180067090 A 20110222; JP 2011053839 W 20110222; JP 2013500750 A 20110222