

Title (en)
Refrigerating system using carbon dioxide as refrigerant

Title (de)
Kälteanlage mit Kohlendioxyd als Kältemittel

Title (fr)
Système frigorifique utilisant le dioxyde de carbone comme réfrigérant

Publication
EP 1359379 A1 20031105 (EN)

Application
EP 03252306 A 20030411

Priority
JP 2002112015 A 20020415

Abstract (en)
A refrigerating cycle system of a vapor compression system has a constitution wherein a first compressor (1a), a first radiator (2a), an expansion mechanism (3a), a heat absorber (4), and a second compressor (1b) connected sequentially and circularly. A CO2 refrigerant is circulated in the sequence of the first compressor (1a) -> the first radiator (2a) -> the expansion mechanism (3a)-> the heat absorber (4) -> the second compressor (1b) -> the first compressor (1a). The rotating drive shaft of the second compressor (1b) is connected to the rotating output shaft of the expansion mechanism (3a) with a common shaft. Thereby, since the drive force of the second compressor (1b) is obtained from the power generated by the refrigerant expanding action of the expansion mechanism (3a), the power of the first compressor (1a) consumed for elevating the pressure of the refrigerant to a predetermined pressure can be minimized. <IMAGE>

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F25B 1/10; **F25B 9/00**

IPC 8 full level
F25B 1/00 (2006.01); **F25B 1/10** (2006.01); **F25B 9/00** (2006.01); **F25B 9/06** (2006.01)

CPC (source: EP US)
F25B 1/10 (2013.01 - EP US); **F25B 9/008** (2013.01 - EP US); **F25B 9/06** (2013.01 - EP US); **F25B 2309/061** (2013.01 - EP US); **F25B 2400/0401** (2013.01 - EP US); **F25B 2500/26** (2013.01 - EP US)

Citation (applicant)
• EP 1046869 A1 20001025 - SANDEN CORP [JP]
• JP H1194379 A 19990409 - SANDEN CORP

Citation (search report)
• [XAY] EP 1046869 A1 20001025 - SANDEN CORP [JP]
• [Y] GB 2152649 A 19850807 - COPELAND CORP
• [Y] GB 2180329 A 19870325 - MEGATHERM INC
• [A] US 2494120 A 19500110 - FERRO JR BERNARDO J

Cited by
US7849700B2; US7802441B2

Designated contracting state (EPC)
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DOCDB simple family (publication)
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