

Title (en)  
Vapor compression refrigerating cycle

Title (de)  
Dampf-Kompressionskältezyklus

Title (fr)  
Cycle frigorifique à compression de vapeur

Publication  
**EP 1860390 A2 20071128 (EN)**

Application  
**EP 07108417 A 20070517**

Priority  
JP 2006146324 A 20060526

Abstract (en)  
A vapor compression refrigerating cycle (1) has a compressor (2), a radiator (3), a first pressure-reducing means (5), a first gas/liquid separating means, a second pressure-reducing means (6), an evaporator (8), and a second gas/liquid separating means, wherein the gas-phase refrigerant separated by the second gas/liquid separating means is flowed out to a suction side of the compressor (2), and the gas-phase refrigerant separated by the first gas/liquid separating means is introduced into a midway of a compression step of the compressor (2), characterized in that the first pressure-reducing means (5) and the first gas/liquid separating means are integrated with each other, or/and, the second pressure-reducing means (6) and the second gas/liquid separating means are integrated with each other, and a heat exchanger (9) for exchanging heat between the gas-phase refrigerant flowed out from the first gas/liquid separating means and the gas-phase refrigerant flowed out from the second gas/liquid separating means is provided. The number of junction parts can be decreased, the structure of the cycle can be simplified and reduced in cost, and the fear of refrigerant leakage can be removed, by integrating the gas/liquid separating means and the pressure-reducing means, and the efficiency as the whole of the refrigerating cycle can be improved by employing the form of a gas injection cycle.

IPC 8 full level  
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CPC (source: EP)  
**F25B 9/008** (2013.01); **F25B 41/39** (2021.01); **F25B 43/006** (2013.01); **F25B 1/10** (2013.01); **F25B 2309/061** (2013.01); **F25B 2400/13** (2013.01); **F25B 2400/23** (2013.01); **F25B 2500/18** (2013.01)

Cited by  
CN117553364A; CN109073298A; EP3495754A4; US10234181B2; US10234182B2; US8327651B2; US10821811B2; WO2016026253A1; WO2015184933A1

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AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU LV MC MT NL PL PT RO SE SI SK TR

Designated extension state (EPC)  
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DOCDB simple family (publication)  
**EP 1860390 A2 20071128**; **EP 1860390 A3 20080723**; JP 2007315687 A 20071206; JP 4776438 B2 20110921

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