

Title (en)  
FREEZING APPARATUS, AND EXPANDER

Title (de)  
GEFRIERGERÄT UND EXPANDER

Title (fr)  
APPAREIL DE CONGÉLATION ET DÉTENDEUR

Publication  
**EP 2090746 B1 20190123 (EN)**

Application  
**EP 07850281 A 20071207**

Priority  

- JP 2007073703 W 20071207
- JP 2006331664 A 20061208
- JP 2007316259 A 20071206

Abstract (en)  
[origin: EP2090746A1] A refrigerating apparatus is obtained which can recover the energy of high pressure refrigerant in an expansion mechanism as power to maximum, and can change the suction amount of the refrigerant in the expansion mechanism. The expansion mechanism (50) includes two rotary mechanism sections (70, 80) having displacement volumes different from each other. The rotary mechanism sections are connected in series to each other. Two suction ports (55, 56) are formed in a cylinder of a rotary mechanism section having a smaller displacement volume. Inflow pipes (24, 27) connected to the suction ports (55, 56) include a pre-throttle valve (60) and an on-off valve (61), respectively. A bypass valve (66) is provided in a bypass pipe (65) bypassing the expansion mechanism (50). Control on the valves (60, 61, 66) achieves balance between the refrigerant circulation amount in the expansion mechanism (50) and the refrigeration circulation amount in a compression mechanism (40).

IPC 8 full level  
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Citation (examination)  

- EP 1416231 A1 20040506 - MATSUSHITA ELECTRIC IND CO LTD [JP]
- JP 2003269103 A 20030925 - MATSUSHITA ELECTRIC IND CO LTD

Cited by  
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