

Title (en)  
HEAT PUMP DEVICE

Title (de)  
WÄRMEPUMPENVORRICHTUNG

Title (fr)  
DISPOSITIF DE POMPE À CHALEUR

Publication  
**EP 2416094 A1 20120208 (EN)**

Application  
**EP 10758629 A 20100329**

Priority  
• JP 2010055543 W 20100329  
• JP 2009083368 A 20090330

Abstract (en)  
A heat pump apparatus that can easily prevent noise generated during partial-load operation is provided. The heat pump apparatus includes a centrifugal compressor (6) configured to compress a refrigerant; a condenser (2) configured to condense the compressed refrigerant; an expansion valve (3) configured to adiabatically expand the condensed refrigerant; an evaporator (4) configured to vaporize the adiabatically-expanded refrigerant; a container (5) into which the vaporized refrigerant flows and from which the refrigerant that flowed in flows out to the centrifugal compressor (6); a sound-insulating member (51) configured to cover the container (5) and prevent sound generated inside the container (5) from leaking outside; a bypass channel (8) configured to guide part of the refrigerant from an area between the centrifugal compressor (6) and the condenser (2) to the container (5); and a flow control valve (9) configured to control the flow rate of the refrigerant flowing through the bypass channel (8).

IPC 8 full level  
**F25B 43/00** (2006.01); **F25B 1/053** (2006.01)

CPC (source: EP US)  
**F25B 1/053** (2013.01 - EP US); **F25B 43/006** (2013.01 - EP US); **F25B 2400/04** (2013.01 - EP US); **F25B 2400/13** (2013.01 - EP US); **F25B 2500/12** (2013.01 - EP US); **F25B 2600/0261** (2013.01 - EP US); **F25B 2600/2501** (2013.01 - EP US)

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