

Title (en)  
HEAT PUMP DEVICE

Title (de)  
WÄRMEPUMPENVORRICHTUNG

Title (fr)  
DISPOSITIF DE POMPE À CHALEUR

Publication  
**EP 2759787 A1 20140730 (EN)**

Application  
**EP 12832013 A 20120131**

Priority  
• JP 2011199537 A 20110913  
• JP 2012000595 W 20120131

Abstract (en)  
In a heat pump apparatus of an indirect type including a primary circuit on a heat source side and a secondary circuit on a load side, a refrigerant in the primary circuit is prevented from leaking through the secondary circuit. An air-conditioning apparatus 100 includes a leakage detecting device 13 that detects leakage of the refrigerant circulated through a refrigerant circuit, serving as the primary circuit, from an intermediate heat exchanger 5 into a water circuit 10, serving as the secondary circuit, and a controller 14 that closes valves 8a and 8b arranged on both sides of the intermediate heat exchanger 5 in the water circuit 10 to prevent water containing the refrigerant from flowing beyond the valves 8a and 8b when the leakage detecting device 13 detects the leakage.

IPC 8 full level  
**F24F 1/26** (2011.01); **F25B 49/02** (2006.01)

CPC (source: EP US)  
**F24F 1/26** (2013.01 - EP US); **F24F 11/70** (2017.12 - EP US); **F25B 13/00** (2013.01 - EP US); **F25B 25/005** (2013.01 - US); **F25B 39/00** (2013.01 - EP US); **F25B 49/005** (2013.01 - EP US); **F25B 49/02** (2013.01 - EP US); **F24F 11/36** (2017.12 - EP US); **F25B 2313/003** (2013.01 - EP US); **F25B 2400/06** (2013.01 - EP US); **F25B 2400/12** (2013.01 - EP US); **F25B 2500/18** (2013.01 - EP US); **F25B 2500/222** (2013.01 - EP US)

Cited by  
EP3822545A1; EP3336453A4; EP3869113A1; EP3591312A4; EP3358273A4; EP3467399A4; CN110073152A; EP3789690A4; US11162725B2; US11118821B2; US11293672B2; EP3809066A4; WO2021160221A1; EP3647687A4; EP3800263A1; EP4148330A1; CN110199162A; EP3572744A4; EP3767186A1; EP3767187A1

Designated contracting state (EPC)  
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

DOCDB simple family (publication)  
**EP 2759787 A1 20140730**; **EP 2759787 A4 20151230**; **EP 2759787 B1 20190724**; CN 103797317 A 20140514; CN 103797317 B 20160817; JP 5818900 B2 20151118; JP WO2013038577 A1 20150323; US 2014196483 A1 20140717; WO 2013038577 A1 20130321

DOCDB simple family (application)  
**EP 12832013 A 20120131**; CN 201280044477 A 20120131; JP 2012000595 W 20120131; JP 2013533457 A 20120131; US 201214238927 A 20120131