

Title (en)  
HEAT PUMP

Title (de)  
WÄRMEPUMPE

Title (fr)  
POMPE À CHALEUR

Publication  
**EP 3252402 A4 20180124 (EN)**

Application  
**EP 16743317 A 20160126**

Priority  
• JP 2015014140 A 20150128  
• JP 2016052069 W 20160126

Abstract (en)  
[origin: EP3252402A1] A heat pump has a compressor, a heat source-side heat exchanger, a receiver, at least one expansion valve, and a utilization-side heat exchanger, and is configured to perform a pump-down operation for recovering a liquid refrigerant into the receiver during a predetermined stopping time. The heat pump is configured to determine whether refrigerant leakage has occurred or not, by detecting an amount of the liquid refrigerant in the receiver in the pump-down operation.

IPC 8 full level  
**F25B 1/00** (2006.01); **F25B 13/00** (2006.01); **F25B 40/02** (2006.01); **F25B 41/04** (2006.01); **F25B 49/02** (2006.01)

CPC (source: EP US)  
**F25B 1/00** (2013.01 - EP US); **F25B 13/00** (2013.01 - EP); **F25B 40/02** (2013.01 - EP); **F25B 41/20** (2021.01 - EP US); **F25B 41/24** (2021.01 - EP US); **F25B 49/02** (2013.01 - EP); **F25B 2327/00** (2013.01 - EP); **F25B 2400/16** (2013.01 - EP); **F25B 2400/19** (2013.01 - EP); **F25B 2500/222** (2013.01 - EP); **F25B 2700/1931** (2013.01 - EP); **F25B 2700/1933** (2013.01 - EP); **F25B 2700/21151** (2013.01 - EP)

Citation (search report)  
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• See references of WO 2016121714A1

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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

Designated extension state (EPC)  
BA ME

DOCDB simple family (publication)  
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DOCDB simple family (application)  
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