

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)
• [X] JP 2014095514 A 20140522 - PANASONIC CORP
• [X] JP S6358073 A 19880312 - TECH RES ASSOC OF AUTOMOB APPL
• [XY] JP 2002286333 A 20021003 - MITSUBISHI ELECTRIC CORP
• [Y] EP 1582827 A1 20051005 - DAIKIN IND LTD [JP]
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• [X] JP H10103820 A 19980424 - SANYO ELECTRIC CO
• See references of WO 2016121714A1

Cited by
CN108344108A; EP4286773A1; EP3647684A1; US11441820B2; WO2023084127A1; US11525612B2

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)
EP 3252402 A1 20171206; EP 3252402 A4 20180124; EP 3252402 B1 20220302; JP 2016138714 A 20160804; JP 6404727 B2 20181017; WO 2016121714 A1 20160804

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