

Title (en)  
HEAT PUMP UTILIZATION EQUIPMENT

Title (de)  
NUTZUNGSVORRICHTUNG FÜR WÄRMEPUMPE

Title (fr)  
ÉQUIPEMENT D'UTILISATION DE POMPE À CHALEUR

Publication  
**EP 3358273 A4 20180808 (EN)**

Application  
**EP 16906499 A 20161221**

Priority  
JP 2016088107 W 20161221

Abstract (en)  
[origin: EP3358273A1] Provided is a heat pump use apparatus, including a refrigerant circuit, a heat medium circuit, and a heat exchanger configured to exchange heat between refrigerant and a heat medium. A main passage of the heat medium circuit includes a branching portion and a joining portion. A pressure protection device and a refrigerant leakage detection device are connected to the main passage. The pressure protection device is connected to the main passage at a connecting portion located between the heat exchanger and one of the branching portion and the joining portion. A first interruption device configured to be able to interrupt a flow from the heat exchanger to the connecting portion is provided in the main passage at a portion between the heat exchanger and the connecting portion. A second interruption device configured to be able to interrupt a flow from the heat exchanger to an other of the branching portion and the joining portion is provided in the main passage at a portion between the heat exchanger and the other of the branching portion and the joining portion.

IPC 8 full level  
**F25B 1/00** (2006.01); **F24D 17/02** (2006.01); **F24H 9/16** (2006.01); **F24H 9/20** (2006.01); **F25B 40/00** (2006.01); **F25B 47/02** (2006.01); **F25B 49/02** (2006.01)

CPC (source: EP US)  
**F24D 17/02** (2013.01 - EP US); **F24H 9/17** (2022.01 - EP US); **F24H 9/2021** (2013.01 - EP US); **F25B 40/00** (2013.01 - EP US); **F25B 41/39** (2021.01 - EP); **F25B 47/025** (2013.01 - EP US); **F25B 41/39** (2021.01 - US); **F25B 2339/047** (2013.01 - EP US); **F25B 2500/222** (2013.01 - EP US)

Citation (search report)  
• [Y] WO 2016047278 A1 20160331 - MITSUBISHI ELECTRIC CORP [JP]  
• [Y] EP 2759787 A1 20140730 - MITSUBISHI ELECTRIC CORP [JP]  
• [A] WO 2015190144 A1 20151217 - MITSUBISHI ELECTRIC CORP [JP]  
• See also references of WO 2018116404A1

Cited by  
EP3822545A1; EP3789686A1; EP4047275A1

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 3358273 A1 20180808**; **EP 3358273 A4 20180808**; **EP 3358273 B1 20190814**; CN 110073152 A 20190730; CN 110073152 B 20210302; JP 6664516 B2 20200313; JP WO2018116404 A1 20190711; US 2019301750 A1 20191003; WO 2018116404 A1 20180628

DOCDB simple family (application)  
**EP 16906499 A 20161221**; CN 201680091350 A 20161221; JP 2016088107 W 20161221; JP 2018557452 A 20161221; US 201616335397 A 20161221