

Title (en)  
HEAT PUMP-TYPE WATER HEATER

Title (de)  
WÄRMEPUMPENDURCHLAUFERHITZER

Title (fr)  
CHAUFFE-EAU DU TYPE POMPE À CHALEUR

Publication  
**EP 2685177 A4 20140820 (EN)**

Application  
**EP 12755362 A 20120309**

Priority  
• JP 2011052445 A 20110310  
• JP 2012056161 W 20120309

Abstract (en)  
[origin: EP2685177A1] Energy efficiency is improved. A heat pump water heater 1 includes: a heat pump unit 2 including a refrigerant circuit 3 in which a refrigerant condensing in a condenser 22 circulates; and a hot water storage tank 5 which stores hot water heated in the condenser 22. An operation mode is selectable from a circulation heating mode in which heated hot water is supplied to the hot water storage tank at a first flow rate, and a non-circulation heating mode in which heated hot water is supplied to a top portion of the hot water storage tank 5 at a second flow rate lower than the first flow rate. The operation mode is switched between the circulation heating mode and the non-circulation heating mode based on the temperature of the refrigerant supplied to the condenser 22.

IPC 8 full level  
**F24H 1/00** (2006.01); **F24D 17/02** (2006.01); **F24D 19/10** (2006.01); **F24H 4/04** (2006.01)

CPC (source: EP US)  
**F24D 17/02** (2013.01 - EP); **F24D 19/1054** (2013.01 - EP US); **F24H 4/04** (2013.01 - EP); **F24H 15/156** (2022.01 - EP US); **F24H 15/215** (2022.01 - EP US); **F24H 15/232** (2022.01 - EP US); **F24H 15/258** (2022.01 - EP US)

Citation (search report)  
• [XAY] DE 10257431 A1 20030618 - DENSO CORP [JP]  
• [XAY] EP 1162419 A1 20011212 - DENSO CORP [JP], et al  
• [XAY] DE 102009017423 A1 20101021 - STIEBEL ELTRON GMBH & CO KG [DE]  
• [YA] WO 2009069734 A1 20090604 - DAIKIN IND LTD [JP], et al  
• See references of WO 2012121382A1

Cited by  
FR3046218A1

Designated contracting state (EPC)  
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DOCDB simple family (publication)  
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