

Title (en)

WATER HEAT EXCHANGER AND HOT-WATER HEAT SOURCE DEVICE

Title (de)

WASSERWÄRMETAUSCHER UND HEISSWASSERWÄRMEQUELLE

Title (fr)

ECHANGEUR DE CHALEUR A EAU ET DISPOSITIF DE SOURCE D'EAU CHAUE

Publication

EP 2390611 A1 20111130 (EN)

Application

EP 10733340 A 20100119

Priority

- JP 2010000265 W 20100119
- JP 2009009599 A 20090120

Abstract (en)

An object of the present invention is to provide a water heat exchanger that can efficiently exchange heat between water and a refrigerant and that is simple to manufacture. A water heat exchanger (22, 52) of the present invention is a water heat exchanger (22, 52) that exchanges heat between a refrigerant and water and comprises a pair of refrigerant pipes (22a, 52a) and a water pipe (22b, 52b). The pair of refrigerant pipes (22a, 52a) each are a many holed flat pipe (41A, 41B, 71A, 71B) that has a plurality of refrigerant passageway holes (47) wherethrough the refrigerant can flow. The water pipe (22b, 52b) is a sparsely holed flat pipe (42, 82, 92). The sparsely holed flat pipe (42, 82, 92), wherethrough the water can flow, has fewer water passageway holes (48) than the refrigerant pipes have refrigerant passageway holes. Furthermore, in a cross section, the long side surfaces of the water pipe (22b, 52b) and one of the long side surfaces of each of the pair of refrigerant pipes (22a, 52a) are in tight contact with one another. Furthermore, the water pipe (22b, 52b) is interposed by the pair of refrigerant pipes (22a, 52a).

IPC 8 full level

F28D 7/00 (2006.01); **F25B 1/00** (2006.01); **F28F 1/02** (2006.01)

CPC (source: EP KR US)

F25B 1/00 (2013.01 - KR); **F25B 39/04** (2013.01 - EP US); **F28D 7/00** (2013.01 - KR); **F28D 7/0025** (2013.01 - EP US);
F28D 7/0033 (2013.01 - EP US); **F28F 1/02** (2013.01 - KR); **F28F 1/022** (2013.01 - EP US); **F28F 1/04** (2013.01 - EP US);
F28F 9/04 (2013.01 - EP US); **F25B 2339/047** (2013.01 - EP US)

Citation (search report)

See references of WO 2010084732A1

Designated contracting state (EPC)

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 SE SI SK SM TR

DOCDB simple family (publication)

EP 2390611 A1 20111130; AU 2010207400 A1 20110901; AU 2010207400 B2 20130131; BR PI1007073 A2 20160210;
CN 102282436 A 20111214; JP 2010190564 A 20100902; JP 4666104 B2 20110406; KR 20110106933 A 20110929;
US 2011271711 A1 20111110; WO 2010084732 A1 20100729; WO 2010084732 A8 20110811

DOCDB simple family (application)

EP 10733340 A 20100119; AU 2010207400 A 20100119; BR PI1007073 A 20100119; CN 201080004787 A 20100119;
JP 2010000265 W 20100119; JP 2010008706 A 20100119; KR 20117019090 A 20100119; US 201013144608 A 20100119