

Title (en)

HEAT EXCHANGER AND HOT WATER SUPPLY APPARATUS OF HEAT PUMP TYPE EQUIPPED WITH SAME

Title (de)

WÄRMETAUSCHER UND DAMIT AUSGERÜSTETES WÄRMEPUMPEN-HEISSWASSERVERSORGUNGSGERÄT

Title (fr)

ECHANGEUR DE CHALEUR ET APPAREIL D'ALIMENTATION EN EAU CHAUDE DE TYPE POMPE A CHALEUR METTANT EN OEUVRE CET ECHANGEUR DE CHALEUR

Publication

**EP 2390612 A1 20111130 (EN)**

Application

**EP 10733496 A 20100120**

Priority

- JP 2010050648 W 20100120
- JP 2009011561 A 20090122
- JP 2009074136 A 20090325

Abstract (en)

A heat exchanger 21 is provided with a metal tube 47 that has a support member 55 inhibiting deformation in the thickness direction in a fluid flow channel 53, and a multiple-hole metal tube 45 that is stacked on one side of the metal tube 47 in the thickness direction and has an opposing surface disposed opposite an outer surface 61 on the one side of the metal tube 47 and joined by at least part thereof to the outer surface 61 on the one side.

IPC 8 full level

**F28D 7/00** (2006.01); **F24H 1/00** (2006.01); **F28D 7/04** (2006.01); **F28F 1/40** (2006.01)

CPC (source: EP US)

**F24D 17/02** (2013.01 - EP US); **F28D 7/0033** (2013.01 - EP US); **F28F 1/022** (2013.01 - EP US); **F28F 3/02** (2013.01 - EP US); **F28F 3/044** (2013.01 - EP US); **F28F 13/12** (2013.01 - EP US); **F28D 7/04** (2013.01 - EP US); **F28F 2225/04** (2013.01 - EP US)

Citation (search report)

See references of WO 2010084889A1

Cited by

EP3961138A1

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 2390612 A1 20111130**; CN 102292611 A 20111221; JP 2010249495 A 20101104; JP 4770989 B2 20110914; US 2011277494 A1 20111117; WO 2010084889 A1 20100729

DOCDB simple family (application)

**EP 10733496 A 20100120**; CN 201080005112 A 20100120; JP 2010010105 A 20100120; JP 2010050648 W 20100120; US 201013145741 A 20100120