

Title (en)
HEAT EXCHANGER AND AIR CONDITIONER

Title (de)
WÄRMETAUSCHER UND KLIMAAANLAGE

Title (fr)
ÉCHANGEUR THERMIQUE ET CLIMATISEUR

Publication
EP 3128263 A1 20170208 (EN)

Application
EP 15757924 A 20150306

Priority
• JP 2014056018 W 20140307
• JP 2015056724 W 20150306

Abstract (en)
A heat exchanger includes a primary heat exchange portion and a secondary heat exchange portion. The primary heat exchange portion includes first primary fins provided parallel to a direction in which a fan sends air, first primary pipes that are inserted into the first primary fins and through which refrigerant flows, second primary fins positioned windward of the first primary fins and provided parallel to the direction in which the fan sends air, second primary pipes that are inserted into the second primary fins and through which the refrigerant flows, and a primary-pipe connecting component extending in a direction parallel to the direction in which the fan sends air, and connecting one of the first primary pipes and one of the second primary pipes. The secondary heat exchange portion includes first secondary fins provided parallel to the direction in which the fan sends air, first secondary pipes that are inserted into the first secondary fins and through which the refrigerant flows, second secondary fins positioned windward of the first secondary fins and provided parallel to the direction in which the fan sends air, second secondary pipes that are inserted into the second secondary fins and through which the refrigerant flows, and a secondary-pipe connecting component extending in the direction parallel to the direction in which the fan sends air, and connecting one of the first secondary pipes and one of the second secondary pipes. When the heat exchanger acts as an evaporator, the refrigerant flows through the primary heat exchange portion from the first primary pipes toward the second primary pipes and the refrigerant flows through the secondary heat exchange portion from the second secondary pipes toward the first secondary pipes. When the heat exchanger acts as a condenser, the refrigerant flows through the primary heat exchange portion from the second primary pipes toward the first primary pipes and the refrigerant flows through the secondary heat exchange portion from the first secondary pipes toward the second secondary pipes.

IPC 8 full level
F25B 39/04 (2006.01); **F25B 39/02** (2006.01); **F28D 1/047** (2006.01)

CPC (source: EP)
F25B 39/02 (2013.01); **F25B 39/04** (2013.01); **F28D 1/0461** (2013.01); **F28D 1/0475** (2013.01); **F28D 1/0477** (2013.01); **F28F 1/32** (2013.01); **F28F 9/262** (2013.01); **F28F 2215/02** (2013.01); **F28F 2250/102** (2013.01); **F28F 2250/108** (2013.01)

Cited by
US12000633B2; US10914499B2

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 3128263 A1 20170208; **EP 3128263 A4 20180110**; **EP 3128263 B1 20210120**; JP WO2015133626 A1 20170406;
WO 2015132963 A1 20150911; WO 2015133626 A1 20150911

DOCDB simple family (application)
EP 15757924 A 20150306; JP 2014056018 W 20140307; JP 2015056724 W 20150306; JP 2016506197 A 20150306