

Title (en)

HEAT EXCHANGER, HEAT EXCHANGER UNIT, AND REFRIGERATION CYCLE DEVICE

Title (de)

WÄRMETAUSCHER, WÄRMETAUSCHEREINHEIT UND KÄLTEKREISLAUFVORRICHTUNG

Title (fr)

ÉCHANGEUR DE CHALEUR, UNITÉ D'ÉCHANGE DE CHALEUR, ET DISPOSITIF À CYCLE FRIGORIFIQUE

Publication

EP 4080150 A1 20221026 (EN)

Application

EP 19956213 A 20191216

Priority

JP 2019049152 W 20191216

Abstract (en)

A heat exchanger in which an end portion of a heat exchange element is appropriately joined to an insertion hole of a header. The heat exchanger includes a heat exchange element extending in a first direction and a header to which the heat exchange element is connected. The heat exchange element includes at least one heat transfer tube extending in the first direction and a fin provided on part of an edge portion of the at least one heat transfer tube in a second direction crossing orthogonally with the first direction. An end portion in the first direction of the heat exchange element includes an insertion part being inserted into an interior of the header, an abutment part abutting the header in a part other than the insertion part, and a spaced-apart part being spaced apart from the header in a part other than the insertion part.

IPC 8 full level

F28D 1/053 (2006.01); **F28F 1/00** (2006.01); **F28F 1/16** (2006.01); **F28F 9/02** (2006.01)

CPC (source: EP US)

F28D 1/053 (2013.01 - US); **F28D 1/05383** (2013.01 - EP); **F28F 1/025** (2013.01 - EP); **F28F 1/16** (2013.01 - EP US); **F28F 9/0246** (2013.01 - US); **F28F 1/022** (2013.01 - EP); **F28F 1/18** (2013.01 - EP); **F28F 2275/045** (2013.01 - EP)

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

Designated validation state (EPC)

KH MA MD TN

DOCDB simple family (publication)

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DOCDB simple family (application)

EP 19956213 A 20191216; JP 2019049152 W 20191216; JP 2021565162 A 20191216; US 201917769949 A 20191216