

Title (en)  
HEAT EXCHANGER AND REFRIGERATION CYCLE DEVICE

Title (de)  
WÄRMETAUSCHER UND KÜHLZYKLUSVORRICHTUNG

Title (fr)  
ÉCHANGEUR DE CHALEUR ET DISPOSITIF À CYCLE DE RÉFRIGÉRATION

Publication  
**EP 3995775 B1 20230308 (EN)**

Application  
**EP 19936201 A 20190703**

Priority  
JP 2019026420 W 20190703

Abstract (en)  
[origin: EP3995775A1] A heat exchanger includes a plurality of heat exchange modules arranged and spaced apart from each other in a first direction, and a header connected to end portions of the plurality of heat exchange modules, the end portions being located at ends of the plurality of heat exchange modules in a second direction crossing perpendicularly to the first direction. The plurality of heat exchange modules each include a heat transfer tube extending in the second direction, and a fin extending from an edge portion of the heat transfer tube in a third direction crossing perpendicularly to a plane parallel to the first direction and the second direction. The fin includes on its surface a plurality of convex parts each protruding in the first direction. The plurality of convex parts are each provided to define a surface inclined relative to the second direction and the third direction.

IPC 8 full level  
**F28F 1/16** (2006.01); **F28D 1/053** (2006.01); **F28D 21/00** (2006.01); **F28F 1/02** (2006.01)

CPC (source: EP)  
**F28D 1/05366** (2013.01); **F28F 1/022** (2013.01); **F28F 1/16** (2013.01); **F28D 2021/0068** (2013.01); **F28F 2215/10** (2013.01)

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

DOCDB simple family (publication)  
**EP 3995775 A1 20220511**; **EP 3995775 A4 20220629**; **EP 3995775 B1 20230308**; CN 114041037 A 20220211; CN 114041037 B 20231013; JP 7166458 B2 20221107; JP WO2021001953 A1 20211125; WO 2021001953 A1 20210107

DOCDB simple family (application)  
**EP 19936201 A 20190703**; CN 201980097972 A 20190703; JP 2019026420 W 20190703; JP 2021529622 A 20190703