

Title (en)  
REFRIGERATOR

Title (de)  
KÜHLSCHRANK

Title (fr)  
RÉFRIGÉRATEUR

Publication  
**EP 3450889 A1 20190306 (EN)**

Application  
**EP 17789429 A 20170421**

Priority  

- JP 2016089338 A 20160427
- JP 2016161225 A 20160819
- JP 2017016031 W 20170421

Abstract (en)

A refrigerator 1 of an embodiment performs heat exchange of a refrigerating cycle 21 by using a multi-flow type condenser 12 having a flat tube 14 that is formed into a flat shape in which a plurality of flow paths in which a refrigerant flows are formed inside the flat tube 14, and a header 13 that is an inlet or an outlet for the refrigerant to the flat tube 14.

IPC 8 full level

**F25B 39/04** (2006.01); **F25D 11/00** (2006.01); **F25D 19/00** (2006.01); **F25D 21/14** (2006.01); **F28D 1/047** (2006.01); **F28D 1/053** (2006.01)

CPC (source: EP)

**F25B 39/04** (2013.01); **F25D 21/04** (2013.01); **F25D 23/006** (2013.01); **F25D 23/061** (2013.01); **F28D 1/0478** (2013.01); **F28D 1/05383** (2013.01);  
**F28D 1/05391** (2013.01); **F28D 3/02** (2013.01); **F28F 17/00** (2013.01); **F25B 2400/071** (2013.01); **F25D 2201/14** (2013.01);  
**F28D 2001/0273** (2013.01); **F28D 2021/007** (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

Designated extension state (EPC)

BA ME

DOCDB simple family (publication)

**EP 3450890 A1 20190306; EP 3450890 A4 20200108;** CN 109073311 A 20181221; CN 109073312 A 20181221; EP 3450889 A1 20190306;  
EP 3450889 A4 20200108; JP 2017201230 A 20171109; JP 2017201231 A 20171109; JP 2020169814 A 20201015; JP 6740057 B2 20200812;  
JP 7164286 B2 20221101; TW 201738517 A 20171101; TW 201738518 A 20171101; TW I719196 B 20210221

DOCDB simple family (application)

**EP 17789430 A 20170421;** CN 201780025875 A 20170421; CN 201780026906 A 20170421; EP 17789429 A 20170421;  
JP 2016160117 A 20160817; JP 2016161225 A 20160819; JP 2020125324 A 20200722; TW 106113540 A 20170424;  
TW 106113558 A 20170424