

Title (en)

Plate-type heat exchanger, method of manufacturing the same, and heat pump device

Title (de)

Platten-Wärmetauscher, Herstellungsverfahren dafür und Wärmepumpenvorrichtung

Title (fr)

Échangeur de chaleur à plaques, procédé de fabrication de celui-ci et dispositif de pompe à chaleur

Publication

**EP 2650633 A2 20131016 (EN)**

Application

**EP 13160236 A 20130320**

Priority

JP 2012091375 A 20120412

Abstract (en)

To guide lubricating oil flowing into a plate-type heat exchanger to an oil-recovery port, while minimizing the amount of lubricating oil trapped therein. A plate-type heat exchanger includes: a plate assembly 120 that is a plate stacked body including a stack of a plurality of heat-transfer plates 100; an inlet port and an outlet port for refrigerant 7 provided in the plate assembly 120; an inlet port and an outlet port for water 10 provided in the plate assembly 120; and an oil-recovery port 103e from which lubricating oil 8 contained in the refrigerant 7 is extracted, the oil-recovery port 103e being provided below the outlet port for the refrigerant 7 provided in the lower part of the plate assembly 120. Oil recovery holes 200 communicating with the oil-recovery port 103e are provided at the lower part inside the plate assembly 120, and a flow-smoothing embossed portion 201 is provided on each heat-transfer plate 100 so that the lubricating oil 8 smoothly flows toward the oil recovery hole 200.

IPC 8 full level

**F25B 39/04** (2006.01); **F25B 43/02** (2006.01); **F28D 9/00** (2006.01); **F28F 3/04** (2006.01)

CPC (source: EP)

**F25B 39/00** (2013.01); **F25B 43/02** (2013.01); **F28D 9/005** (2013.01); **F28F 3/046** (2013.01); **F25B 2500/18** (2013.01); **F28F 2265/18** (2013.01)

Citation (applicant)

- JP 2011247579 A 20111208 - MITSUBISHI ELECTRIC CORP
- JP 2005527777 A 20050915

Cited by

DE102014226479A1; DE102018200808A1

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 2650633 A2 20131016**; **EP 2650633 A3 20180411**; **EP 2650633 B1 20190522**; CN 103376004 A 20131030; CN 103376004 B 20150812; CN 203405106 U 20140122; JP 2013221629 A 20131028; JP 5881515 B2 20160309

DOCDB simple family (application)

**EP 13160236 A 20130320**; CN 201310124113 A 20130411; CN 201320178868 U 20130411; JP 2012091375 A 20120412