

Title (en)
HEAT EXCHANGER AND HEAT PUMP USING THE SAME

Title (de)
WÄRMETAUSCHER UND WÄRMEPUMPE DAMIT

Title (fr)
ÉCHANGEUR DE CHALEUR ET POMPE À CHALEUR UTILISANT CET ÉCHANGEUR

Publication
EP 2735832 B1 20200205 (EN)

Application
EP 12818246 A 20120720

Priority
• JP 2011160927 A 20110722
• JP 2012004636 W 20120720

Abstract (en)
[origin: EP2735832A1] A heat exchanger 100 includes a plurality of heat exchange segments 10. Each of the heat exchange segments 10 is composed of an inner tube assembly 26 including two inner tubes 24, and an outer tube 28. A gap width G represented by a difference (($\varnothing_{in} / 2$) - \varnothing_{out}) between a half of an inner diameter \varnothing_{in} of the outer tube 28 and an outer diameter \varnothing_{out} of the inner tube 24 satisfies $0 < G \leq 0.8$ (unit: mm). A path number N indicating the number of the heat exchange segments 10 and the inner diameter \varnothing_{in} (unit: mm) of the outer tube 28 satisfy one of relationships (1) to (5) below. (1) $N = 4$ and $8.20 \leq \varnothing_{in} \leq 9.50$ (2) $N = 5$ and $7.58 \leq \varnothing_{in} \leq 8.90$ (3) $N = 6$ and $7.14 \leq \varnothing_{in} \leq 8.50$ (4) $N = 7$ and $6.78 \leq \varnothing_{in} \leq 8.20$ (5) $N = 8$ and $6.52 \leq \varnothing_{in} \leq 7.90$

IPC 8 full level
F28D 7/10 (2006.01); **F25B 30/02** (2006.01); **F28D 1/053** (2006.01); **F28D 7/02** (2006.01); **F28D 7/16** (2006.01); **F28F 1/00** (2006.01); **F28F 9/02** (2006.01); **F28F 9/26** (2006.01); **F28F 21/06** (2006.01); **F28F 21/08** (2006.01)

CPC (source: EP)
F25B 30/02 (2013.01); **F28D 7/024** (2013.01); **F28D 7/16** (2013.01); **F28F 1/003** (2013.01); **F28F 9/26** (2013.01); **F25B 2339/047** (2013.01)

Cited by
EP3614086A1; NO20181095A1; NO345004B1; US11255614B2; EP3771877A1

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 2735832 A1 20140528; **EP 2735832 A4 20150408**; **EP 2735832 B1 20200205**; CN 103562665 A 20140205; CN 103562665 B 20151021; JP 6037235 B2 20161207; JP WO2013014899 A1 20150223; WO 2013014899 A1 20130131

DOCDB simple family (application)
EP 12818246 A 20120720; CN 201280024474 A 20120720; JP 2012004636 W 20120720; JP 2013525578 A 20120720