

Title (en)
HEAT TRANSFER TUBE FOR HEAT EXCHANGER, HEAT EXCHANGER, REFRIGERATING CYCLE APPARATUS, AND AIR CONDITIONING APPARATUS

Title (de)
WÄRMEÜBERTRAGUNGSROHR FÜR EINEN WÄRMETAUSCHER, WÄRMETAUSCHER, KÜHLKREISLAUFVORRICHTUNG UND KLIMAANLAGENVORRICHTUNG

Title (fr)
TUBE DE TRANSFERT DE CHALEUR POUR ECHANGEUR DE CHALEUR, ECHANGEUR DE CHALEUR, APPAREIL A CYCLE DE REFRIGERATION ET APPAREIL DE CLIMATISATION

Publication
EP 2317269 A4 20140402 (EN)

Application
EP 09804999 A 20090805

Priority
• JP 2009063859 W 20090805
• JP 2008205073 A 20080808

Abstract (en)
[origin: EP2317269A1] To obtain a heat transfer tube for a heat exchanger or the like which can obtain predetermined heat transfer performance without increasing in-tube pressure loss. High ridges 22A having 10 to 20 rows with a predetermined height and low ridges 22B with a height lower than the high ridges 22A having 2 to 6 rows between the high ridges 22A and the high ridges 22A are provided on an inner face helically with respect to a tube axial direction.

IPC 8 full level
F28F 1/40 (2006.01); **F25B 1/00** (2006.01); **F25B 13/00** (2006.01); **F25B 39/00** (2006.01); **F25B 39/02** (2006.01); **F25B 39/04** (2006.01); **F28D 1/047** (2006.01); **F28D 21/00** (2006.01); **F28F 1/32** (2006.01); **F28F 1/42** (2006.01); **F28F 13/18** (2006.01)

CPC (source: EP US)
F25B 39/00 (2013.01 - EP US); **F25B 39/022** (2013.01 - EP US); **F28D 1/0477** (2013.01 - EP US); **F28F 1/32** (2013.01 - EP US); **F28F 1/40** (2013.01 - EP US); **F28F 1/42** (2013.01 - EP US); **F28F 1/422** (2013.01 - EP US); **F28F 13/187** (2013.01 - EP US); **F25B 13/00** (2013.01 - EP US); **F25B 2309/06** (2013.01 - EP US); **F25B 2500/01** (2013.01 - EP US); **F28D 2021/007** (2013.01 - EP US); **F28D 2021/0071** (2013.01 - EP US); **F28F 2275/125** (2013.01 - EP US)

Citation (search report)
• [Y] JP 2001133182 A 20010518 - SUMITOMO LIGHT METAL IND
• [Y] US 6298909 B1 20011009 - FUKATAMI TAKAO [JP], et al
• [Y] US 2007089868 A1 20070426 - HOUFUKU MAMORU [JP], et al
• [A] JP 2005288502 A 20051020 - KOBELCO & MAT COPPER TUBE INC
• [A] US 5692560 A 19971202 - MESSANT MICHEL [FR], et al
• [A] US 2003173071 A1 20030918 - LETERRIBLE PASCAL [FR], et al
• [A] US 2005061492 A1 20050324 - KURIHARA AKIO [JP], et al
• See references of WO 2010016516A1

Cited by
EP2796822A4; EP3115730A4

Designated contracting state (EPC)
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 SE SI SK SM TR

DOCDB simple family (publication)
EP 2317269 A1 20110504; EP 2317269 A4 20140402; EP 2317269 B1 20180606; CN 102112838 A 20110629; CN 102112838 B 20130417; ES 2677347 T3 20180801; JP 2010038502 A 20100218; US 2011113820 A1 20110519; WO 2010016516 A1 20100211

DOCDB simple family (application)
EP 09804999 A 20090805; CN 200980129462 A 20090805; ES 09804999 T 20090805; JP 2008205073 A 20080808; JP 2009063859 W 20090805; US 200913003719 A 20090805