

Title (en)
HEAT TRANSFER TUBE FOR HEAT EXCHANGER, HEAT EXCHANGER, REFRIGERATION CYCLE DEVICE, AND AIR CONDITIONING DEVICE

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

Title (fr)
TUBE DE TRANSFERT DE CHALEUR POUR ÉCHANGEUR DE CHALEUR, ÉCHANGEUR DE CHALEUR, DISPOSITIF À CYCLE DE RÉFRIGÉRATION ET DISPOSITIF DE CLIMATISATION

Publication
EP 2525181 A4 20140917 (EN)

Application
EP 11732756 A 20110107

Priority
• JP 2010005355 A 20100113
• JP 2011000048 W 20110107

Abstract (en)
[origin: EP2525181A1] A heat transfer pipe for a heat exchanger including high threads 22a and low threads 22b that are lower than the high threads 22a. The high threads 22a and the low threads 22b are provided at respective prescribed heights in a helical manner in a pipe axial direction on an inner surface of a pipe 20, the high threads 22a are formed with 11 to 19 threads, the low threads 22b are formed with 3 to 6 threads between each pair of the high threads 22a, the high threads 22a before expansion of the pipe each have a trapezoidal shape in cross-section so that a crest before the expansion of the pipe is flat, and a ratio W1/D of a tip width W1 of the crest portion after the expansion of the pipe to an outer diameter D of the heat transfer pipe 20 is 0.011 to 0.040. Further, the high threads 22a before the expansion of the pipe are higher by 0.04 mm or more than the low threads 22b.

IPC 8 full level
F28F 1/40 (2006.01); **F28F 1/32** (2006.01)

CPC (source: EP US)
F25B 39/00 (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); **F28D 2021/007** (2013.01 - EP US); **F28D 2021/0071** (2013.01 - EP US); **F28F 2275/125** (2013.01 - EP US)

Citation (search report)
• [I] JP 2004003733 A 20040108 - MITSUBISHI HEAVY IND LTD
• [I] US 6173763 B1 20010116 - SANO TETSUO [JP], et al
• See references of WO 2011086881A1

Cited by
ITMI20131684A1; KR20160068782A; WO2015052188A1; WO2014130281A1; WO2019080887A1

Designated contracting state (EPC)
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DOCDB simple family (publication)
EP 2525181 A1 20121121; **EP 2525181 A4 20140917**; CN 102713487 A 20121003; JP 2011144989 A 20110728; US 2012285190 A1 20121115; WO 2011086881 A1 20110721

DOCDB simple family (application)
EP 11732756 A 20110107; CN 201180005976 A 20110107; JP 2010005355 A 20100113; JP 2011000048 W 20110107; US 201113519371 A 20110107