

Title (en)
METAL HEAT EXCHANGER TUBE

Title (de)
METALLISCHES WÄRMEAUSTAUSCHERROHR

Title (fr)
TUBE D'ÉCHANGEUR DE CHALEUR MÉTALLIQUE

Publication
EP 3111153 B1 20190424 (DE)

Application
EP 15704718 A 20150210

Priority
• DE 102014002829 A 20140227
• EP 2015000278 W 20150210

Abstract (en)
[origin: WO2015128061A1] The invention relates to a metal heat exchanger tube, comprising integral ribs formed on the outside of the tube. Said ribs have a rib base, rib flanks, and a rib tip. The rib base protrudes substantially radially from the tube wall. A channel is formed between the ribs, in which channel additional structures spaced apart from each other are arranged. The additional structures divide the channel between the ribs into segments. The additional structures reduce the cross-sectional area in the channel between two ribs through which flow is possible by at least 60% locally and, at least thereby, limit a fluid flow in the channel during operation.

IPC 8 full level
F28F 1/42 (2006.01); **F28F 1/36** (2006.01); **F28F 13/18** (2006.01)

CPC (source: EP KR US)
F25B 39/00 (2013.01 - US); **F28D 21/0017** (2013.01 - US); **F28F 1/36** (2013.01 - EP KR US); **F28F 1/422** (2013.01 - EP KR US); **F28F 13/08** (2013.01 - US); **F28F 13/187** (2013.01 - EP KR US); **F28F 21/08** (2013.01 - KR); **F25B 39/02** (2013.01 - US); **F25B 2339/0242** (2013.01 - US); **F28D 2021/0064** (2013.01 - US)

Cited by
DE202020005625U1; DE202020005628U1; WO2022089772A1; WO2022089773A1

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)
DE 102014002829 A1 20150827; BR 112016019767 A2 20171024; BR 112016019767 B1 20201208; CN 106030233 A 20161012; CN 106030233 B 20190621; EP 3111153 A1 20170104; EP 3111153 B1 20190424; HU E044830 T2 20191128; JP 2017501362 A 20170112; JP 6197121 B2 20170913; KR 102367582 B1 20220225; KR 20160125348 A 20161031; MX 2016006294 A 20161208; PL 3111153 T3 20190930; PT 3111153 T 20190730; TR 201906855 T4 20190521; US 11073343 B2 20210727; US 2016305717 A1 20161020; WO 2015128061 A1 20150903

DOCDB simple family (application)
DE 102014002829 A 20140227; BR 112016019767 A 20150210; CN 201580002855 A 20150210; EP 15704718 A 20150210; EP 2015000278 W 20150210; HU E15704718 A 20150210; JP 2016537534 A 20150210; KR 20167014382 A 20150210; MX 2016006294 A 20150210; PL 15704718 T 20150210; PT 15704718 T 20150210; TR 201906855 T 20150210; US 201515103193 A 20150210