

Title (en)
SLOTTED TUBE WITH REVERSIBLE USAGE FOR HEAT EXCHANGERS

Title (de)
GESCHLITZTES ROHR ZUR UMSCHALTbaren VERWENDUNG EINES WÄRMETAUSCHERS

Title (fr)
TUBES RAINURES A UTILISATION REVERSIBLE POUR ECHANGEURS THERMIQUES

Publication
EP 1851498 B1 20130515 (FR)

Application
EP 03743918 A 20030310

Priority
• FR 0300760 W 20030310
• FR 0203067 A 20020312

Abstract (en)
[origin: WO03076861A1] The invention relates to metallic slotted tubes (1) having an outer diameter De. The inventive tubes are slotted internally by N helical ribs (2) having an apex angle alpha, height H, base width LN and helix angle beta, said consecutive ribs being separated by means of a slot (3) comprising a flat base of width LR, with a pitch P which is equal to LR + LN. Said tubes are characterised in that: a) De is between 4 and 20 mm, b) the number N of ribs is between 46 and 98, c) the height H of said ribs is between 0.18 mm and 0.4 mm, d) the apex angle alpha is such that $15^\circ \leq \alpha < 30^\circ$, and e) the helix angle beta is between 18° and 35° . Said tubes can be used to obtain simultaneously a high heat exchange coefficient in evaporation and condensation and a low pressure drop.

IPC 8 full level
F28F 1/00 (2006.01); **F28F 1/40** (2006.01); **B21C 37/15** (2006.01); **F25B 39/00** (2006.01); **F28F 21/08** (2006.01)

CPC (source: EP KR NO US)
B21C 37/15 (2013.01 - NO); **F25B 39/00** (2013.01 - NO); **F28F 1/36** (2013.01 - NO); **F28F 1/40** (2013.01 - EP KR NO US);
F28F 21/00 (2013.01 - NO)

Designated contracting state (EPC)
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LU MC NL PT RO SE SI SK TR

DOCDB simple family (publication)
WO 03076861 A1 20030918; AU 2003242811 A1 20030922; AU 2003242811 B2 20090528; BR 0308372 A 20050111; CA 2474558 A1 20030918; CA 2474558 C 20110308; CN 1636128 A 20050706; EP 1851498 A1 20071107; EP 1851498 B1 20130515; ES 2449091 T3 20140318; FR 2837270 A1 20030919; FR 2837270 B1 20041001; HR P20040819 A2 20041231; HR P20040819 B1 20171201; IL 162942 A0 20051120; IL 162942 A 20080605; JP 2005526945 A 20050908; KR 100980755 B1 20100907; KR 20040101283 A 20041202; MX PA04007907 A 20041015; MY 135526 A 20080530; NO 20044299 L 20041011; NO 338468 B1 20160822; PL 201843 B1 20090529; PL 370690 A1 20050530; PT 1851498 E 20130704; RU 2004130315 A 20050610; RU 2289076 C2 20061210; US 2003173071 A1 20030918; US 7048043 B2 20060523; YU 101804 A 20060116; YU 76804 A 20060116; ZA 200405864 B 20050621

DOCDB simple family (application)
FR 0300760 W 20030310; AU 2003242811 A 20030310; BR 0308372 A 20030310; CA 2474558 A 20030310; CN 03804182 A 20030310; EP 03743918 A 20030310; ES 03743918 T 20030310; FR 0203067 A 20020312; HR P20040819 A 20040910; IL 16294203 A 20030310; IL 16294204 A 20040708; JP 2003575041 A 20030310; KR 20047014125 A 20030310; MX PA04007907 A 20030310; MY PI20030822 A 20030310; NO 20044299 A 20041011; PL 37069003 A 20030310; PT 03743918 T 20030310; RU 2004130315 A 20030310; US 12078202 A 20020412; YU P101804 A 20030520; YU P76804 A 20030310; ZA 200405864 A 20040722