

Title (en)
FIN-TUBE HEAT EXCHANGER

Title (de)
RIPPENROHR-WÄRMETAUSCHER

Title (fr)
ÉCHANGEUR DE CHALEUR À TUBES À AILETTES

Publication
EP 2314973 B1 20190710 (EN)

Application
EP 09754418 A 20090525

Priority
• JP 2009002292 W 20090525
• JP 2008138145 A 20080527

Abstract (en)
[origin: US2011067849A1] A fin tube type heat exchanger includes heat transfer fins spaced apart from each other along plate thickness directions and heat transfer tubes inserted into the heat transfer fins in directions substantially orthogonal to a gas current flow direction. Each heat transfer fin includes cut and raised parts lined up from upstream to downstream on both sides of each heat transfer tube. The cut and raised parts are inclined with respect to the gas current flow direction to guide gas current to a rear side of the heat transfer tubes. A height of each of the cut and raised parts increases gradually toward the downstream side. A value calculated by dividing an average height of each cut and raised part by a fin pitch is greater than 0.3 and less than 0.6. The fin pitch is a spacing between the heat transfer fins.

IPC 8 full level
F25B 39/02 (2006.01); **F28F 1/32** (2006.01)

CPC (source: EP US)
F28F 1/325 (2013.01 - EP US)

Citation (examination)
EP 2072939 A1 20090624 - DAIKIN IND LTD [JP]

Cited by
CN108007258A

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 TR

DOCDB simple family (publication)
US 2011067849 A1 20110324; AU 2009252652 A1 20091203; AU 2009252652 B2 20120524; CN 102027307 A 20110420;
EP 2314973 A1 20110427; EP 2314973 A4 20140402; EP 2314973 B1 20190710; ES 2746909 T3 20200309; JP 2009287797 A 20091210;
JP 5304024 B2 20131002; KR 20110010133 A 20110131; WO 2009144909 A1 20091203

DOCDB simple family (application)
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JP 2008138145 A 20080527; JP 2009002292 W 20090525; KR 20107029120 A 20090525