Title (en)
   FIN-TUBE HEAT EXCHANGER

Title (de)
   RIPPENROHR-WÄRMETAUSCHER

Title (fr)
   ÉCHANGEUR DE CHALEUR À TUBES À AILETTES

Publication
   EP 2314973 A1 20110427 (EN)

Application
   EP 09754418 A 20090525

Priority
   • JP 2009002292 W 20090525
   • JP 2008138145 A 20080527

Abstract (en)
   A fin tube type heat exchanger (1) that includes: a plurality of heat transfer fins (2), the heat transfer fins being lined up such that they are spaced apart in the plate thickness directions and being disposed in a gas current; and a plurality of heat transfer tubes (3), the heat transfer tubes being inserted into the plurality of heat transfer fins (2) and being disposed in directions substantially orthogonal to a gas current flow direction. In each of the heat transfer fins (2), a plurality of cut and raised parts, the cut and raised parts being lined up from the upstream side to the downstream side in the gas current flow direction, are formed on both sides of each of the heat transfer tubes (3) in the vertical directions; the heights of each of the cut and raised parts with respect to the heat transfer fin surface increase gradually toward the downstream side in the gas current flow direction; and for each of the cut and raised parts, the value calculated by dividing the average height of the front end height (a), which is the height of the gas current flow direction front end with respect to the heat transfer fin surface, and the rear end height (b), which is the height of the gas current flow direction rear end with respect to the heat transfer fin surface, by a fin pitch (FP) is greater than 0.3 and less than 0.6.

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

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

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

Designated extension state (EPC)
   AL BA RS

DOCDB simple family (publication)
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   EP 2314973 A1 20110427; EP 2314973 A4 20140402; EP 2314973 B1 20190710; ES 2746909 T3 20200309; JP 2009287797 A 20091210;
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   US 99359009 A 20090525; AU 2009252652 A 20090525; CN 200980117539 A 20090525; EP 09754418 A 20090525; ES 09754418 T 20090525;
   JP 2008138145 A 20080527; JP 2009002292 W 20090525; KR 20107029120 A 20090525