

Title (en)

Triple-tube type heat exchanger and method of producing same

Title (de)

Wärmetauscher mit dreifachen Rohren und Verfahren zu dessen Herstellung

Title (fr)

Echangeur de chaleur à triple tubes et sa méthode de fabrication

Publication

**EP 1388720 B1 20120523 (EN)**

Application

**EP 03018139 A 20030808**

Priority

- JP 2002230780 A 20020808
- JP 2002230779 A 20020808

Abstract (en)

[origin: EP1388720A2] Outer (4), middle (3) and inner (2) tubes are arranged to define between the outer (4) and middle (3) tubes a first cylindrical space (20) and between the middle (3) and inner (2) tubes a second cylindrical space (11). The inner tube (2) has a third cylindrical space (12) defined therein. Radially depressed two portions (18) of the outer tube (4) are respectively mated with radially raised two portions (8) of the middle tube (3) so that openings (19) formed in the radially depressed two portions (8,18) are merged with openings formed in the radially raised two portions respectively. Inlet and outlet pipes (5,6) are inserted at their base ends into the merged openings (19) of the radially depressed and raised portions (8,18) to connect with the second cylindrical space (11), and the base ends (22) are caulked to peripheral edges of the merged openings. Diametrically reduced end portions of the middle tube (3) intimately contact and hold axially spaced end portions of the inner tube (2), so that the second cylindrical space has an isolated part which is defined between the diametrically reduced end portions and communicated with only the input and output pipes (5,6).

IPC 8 full level

**F28D 7/10** (2006.01); **F02M 25/07** (2006.01); **F28F 1/40** (2006.01); **F28F 13/12** (2006.01)

CPC (source: EP)

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Cited by

CN102135382A; DE102006014188A1; GB2559182A; GB2559182B; EP1995542A3; CN104634813A; DE102012107908A1; DE102012107908B4; EP3133363A1; CN106401808A; US7478630B2; US10995998B2; US11029095B2; EP1995542A2; US9394813B2; JP2005249312A

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