

Title (en)
Heat exchanger and method of production

Title (de)
Wärmetauscher und Herstellungsverfahren

Title (fr)
Echangeur de chaleur et procédé de fabrication

Publication
EP 1227291 A3 20040512 (DE)

Application
EP 01127879 A 20011123

Priority
DE 10103570 A 20010126

Abstract (en)
[origin: EP1227291A2] The radiator has flat tubes (2), the ends (4) of which have a double step in at least one long side (6). One step is produced by an upsetting and widening process, and the other by cutting and bending. This involves widening the small diameter of the flat tube and decreasing its large diameter, and making a cut (8) in the narrow side (11) of the ends within the deformation sector (12).

IPC 1-7
F28F 9/02; **F28F 1/02**

IPC 8 full level
F28F 9/02 (2006.01)

CPC (source: EP US)
F28F 9/0221 (2013.01 - EP US); **Y10T 29/49373** (2015.01 - EP US)

Citation (search report)

- [PDA] DE 10019268 A1 20011213 - MODINE MFG CO [US]
- [A] US 4206806 A 19800610 - TOGASHI AKIRA [JP]
- [DA] DE 19543986 A1 19970528 - BEHR GMBH & CO [DE]

Cited by
EP2998685A3; US10837708B2

Designated contracting state (EPC)
AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE TR

DOCDB simple family (publication)
EP 1227291 A2 20020731; **EP 1227291 A3 20040512**; **EP 1227291 B1 20060621**; DE 10103570 A1 20020801; DE 50110241 D1 20060803; US 2002108742 A1 20020815; US 6739386 B2 20040525

DOCDB simple family (application)
EP 01127879 A 20011123; DE 10103570 A 20010126; DE 50110241 T 20011123; US 5748002 A 20020123