

Title (en)  
Heat exchanger

Title (de)  
Wärmeübertrager

Title (fr)  
Échangeur de chaleur

Publication  
**EP 1503164 B1 20190501 (DE)**

Application  
**EP 03291862 A 20030728**

Priority  
EP 03291862 A 20030728

Abstract (en)  
[origin: EP1503164A1] The closed end (11) of the collector pipe (12) is pinched together (11a,11b) to form a flat fishtail-shaped end. The sides of the pipe at the extreme end diverge to form a groove (13) which may be welded (14) closed. Pinching and welding forms a watertight end to the pipe. One of several different configurations may be used.

IPC 8 full level  
**F28F 9/02** (2006.01)

CPC (source: EP)  
**F28F 9/0202** (2013.01); **F28F 2220/00** (2013.01)

Citation (examination)

- EP 0964212 A2 19991215 - FAFCO INC [US]
- EP 0219974 A2 19870429 - MODINE MFG CO [US]

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)  
**EP 1503164 A1 20050202; EP 1503164 B1 20190501**

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