

Title (en)
Radiator for vehicles

Title (de)
Kühler für Kraftfahrzeuge

Title (fr)
Radiateur de véhicules

Publication
EP 1148312 B1 20040728 (DE)

Application
EP 01107034 A 20010321

Priority
• DE 10019268 A 20000419
• DE 10060006 A 20001202

Abstract (en)
[origin: EP1148312A1] The refrigerator (1) has a block with ribs arranged between flat pipes (2), where the shaped ends (4) of the flat pipes open into opposite collecting (5) or guiding tanks. The longitudinal sides (6) of the shaped ends are connected underneath each other. The ends of the flat pipes are welded to the connection edges (7) of the collection tanks. The ends of welded or extruded flat pipes are divided into two by a separation section. At least one part of each flat pipe has a transverse bend, which bends towards a connection face between the longitudinal side of the flat pipe and the longitudinal side of the divided part of the next flat pipe. The collection tank and its connection edges extend over the bent part and as far as the separated section and are connected to the narrow sides of the flat pipes. An Independent claim is included for a method to manufacture the refrigerator or heat exchanger.

IPC 1-7
F28D 1/053; **F28F 1/02**; **F28F 9/18**

IPC 8 full level
F28D 1/053 (2006.01); **F28F 1/02** (2006.01); **F28F 9/02** (2006.01); **F28F 9/18** (2006.01)

CPC (source: EP US)
F28D 1/05366 (2013.01 - EP US); **F28F 1/025** (2013.01 - EP US); **F28F 9/0221** (2013.01 - EP US); **F28F 9/182** (2013.01 - EP US); **F28D 2021/0082** (2013.01 - EP US); **Y10T 29/49373** (2015.01 - EP US)

Cited by
DE102004053892A1; US5725563A; US8002022B2

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