

Title (en)
Heat exchanger.

Title (de)
Wärmeaustauscher.

Title (fr)
Echangeur de chaleur.

Publication
EP 0207677 A1 19870107 (EN)

Application
EP 86304626 A 19860616

Priority
US 74714485 A 19850620

Abstract (en)
A heat exchanger for transferring heat from a body through heat transfer elements to streamlines of a laminar flowing coolant fluid has fin elements arranged in a row and column pattern, with elements staggered transversely to the flow so that no fin is aligned with its nearest or next nearest neighbours in either the row or column direction. During fluid flow across the heat exchanger, each streamline contacts one heat transfer element and is directly heated exactly once before any streamline contacts more than one element and is directly heated twice. Thus, every streamline of the fluid is used for heat transfer. After an upstream heat transfer element heats its wake-core, enough time elapses before these streamlines flow close to a downstream element to allow heat to diffuse sideways. Thus, no downstream heat transfer element is in the immediate thermal wake-core of any upstream heat transfer element.

IPC 1-7
F28F 3/04; **F28F 1/14**

IPC 8 full level
F28F 3/02 (2006.01); **F28F 1/14** (2006.01); **F28F 3/04** (2006.01); **H05K 7/20** (2006.01)

CPC (source: EP)
F28F 1/14 (2013.01); **F28F 3/04** (2013.01)

Citation (search report)
• [X] US 4019494 A 19770426 - SAFDARI YAHYA B
• [X] US 2789797 A 19570423 - SIMPELAAR CLYDE S
• [A] GB 627859 A 19490817 - MEYER SCHLIOMA FRENKEL
• [A] GB 883547 A 19611129 - JOHN MONTAGUE LAUGHTON
• [A] US 2647731 A 19530804 - EDMUND LUDLOW
• [A] US 2133502 A 19381018 - EMMONS WILLARD O
• [A] DE 2508727 A1 19760909 - RANDELL JOHN EDWARD
• [A] DE 325832 C 19200921 - NORDDEUTSCHE KUEHLERFABRIK G M
• [A] FR 536145 A 19220426 - MULLER SOC
• [A] CH 234859 A 19441031 - SULZER AG [CH]

Cited by
EP0519886A1; CN115430390A; EP1067350A3; EP0322185A1; US4997034A; US11168924B2; US2023069522A1; US12000664B2; US11712098B2

Designated contracting state (EPC)
BE CH DE FR GB IT LI NL SE

DOCDB simple family (publication)
EP 0207677 A1 19870107; BR 8602741 A 19870210; JP S629198 A 19870117

DOCDB simple family (application)
EP 86304626 A 19860616; BR 8602741 A 19860612; JP 8840686 A 19860418