

Title (en)

Series arranged pipe bundle heat exchanger.

Title (de)

Wärmeaustauscher mit reihenweise angeordnetem Rohrbündel.

Title (fr)

Echangeur de chaleur dont le faisceau de tubes est disposé en séries.

Publication

EP 0079090 A1 19830518 (DE)

Application

EP 82201224 A 19820930

Priority

CH 722081 A 19811110

Abstract (en)

1. Heat exchanger with tube bundles which are arranged in rows and the tubes (2', 2'') of which are offset relative to one another in successive rows and pass through a multiplicity of plate fins (3) and at the same time are connected metalically to the plates, and through which a cooling medium flows and round which a medium to be cooled flows in a cross-current, the medium to be cooled flowing between the plate fins, and there being slits (12) directed transversely relative to the direction of flow of the medium to be cooled, characterized in that these slits (12) in the plate fins (3) are respectively arranged downstream between two tubes (2'), round which the medium to be cooled has already flowed, and upstream of the offset tube (2''), round which the medium to be cooled is to flow, and the edges of the slits (12) are bent over their entire width, that the flow channel formed by two adjacent plate fins (3) is interrupted above the tube, round which the medium to be cooled is to flow, and so that the medium to be cooled is guided round and partially deflected into the adjacent flow channel.

Abstract (de)

Bei einem Wärmeaustauscher, insbesondere einem Ladeluftkühler für Verbrennungsmotoren, bei dem in den Rohren (2) ein Kühlmittel strömt und um die Kühlrohre und daran befestigten Rippen (3) das zu kühlende Mittel strömt, werden Massnahmen vorgeschlagen, um den nachteiligen Folgen der unvermeidbaren Verschmutzung abzuhelpfen und die Wärmeübertragung zu verbessern. Bei den Rohren im Innern des Bündels werden oberhalb der zu umströmenden Rohre (2) Schlitzze (12) in den Rippen (3) angeordnet, deren Ränder so abgebogen sind, dass die Strömung umgelenkt und auf 2 benachbarte Kanäle aufgeteilt wird. Am Rippenrand werden Strömungsbegrenzer (11) vorgesehen, die eine ähnliche Beaufschlagung der Randrohre gewährleisten wie dies bei den Rohren im Bündelinnern der Fall ist.

IPC 1-7

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IPC 8 full level

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CPC (source: EP)

F28D 1/05333 (2013.01); **F28F 1/325** (2013.01)

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