

Title (en)

Heat exchanger with several parallel exchange tubes

Title (de)

Wärmetauscher aus mehreren parallel zueinander angeordneten Austauscherrohren

Title (fr)

Echangeur de chaleur avec plusieurs tubes d'échange en parallèle

Publication

**EP 0633444 B1 19980520 (DE)**

Application

**EP 94110457 A 19940705**

Priority

- DE 4322405 A 19930706
- DE 9310827 U 19930720

Abstract (en)

[origin: EP0633444A2] A heat exchanger consists of a plurality of exchange tubes (1) arranged parallel to one another. For the passage of one of the media participating in the heat exchange, the cross-section of the exchange tubes has a width which is large in relation to the height. Fastened to each of the two flat sides (2) of the exchange tubes (1) are ribs (3) which are formed from a ribbed band (strip) (4) which is multiply deflected in a meandering fashion. In order to reduce the influence of any possible pollutants (pollution) on the heat transfer performance of the heat exchanger, the ribs (3) are provided with a plurality of openings (9). The cross-sections of these openings are respectively at least as large as the cross-section (Q), through which flow occurs, between two adjacent ribs (3). The ribs (3) are preferably fastened to the flat sides (2) of the exchange tubes (1) by means of a capacitor discharge welding process. <IMAGE>

IPC 1-7

**F28F 3/02**; **F28D 1/03**; **F28F 1/12**

IPC 8 full level

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CPC (source: EP KR US)

**F28D 1/0535** (2013.01 - EP KR US); **F28F 1/128** (2013.01 - EP KR US); **F28F 2215/08** (2013.01 - KR)

Cited by

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**US 5429185 A 19950704**; AT E166450 T1 19980615; AU 6601494 A 19950119; BR 9402643 A 19950404; CA 2127413 A1 19950107; CN 1102475 A 19950510; DE 59405984 D1 19980625; DE 9310827 U1 19930923; EP 0633444 A2 19950111; EP 0633444 A3 19950426; EP 0633444 B1 19980520; IL 110148 A0 19941007; IL 110148 A 19970610; IN 190153 B 20030621; JP H07151481 A 19950616; KR 950003781 A 19950217; RU 2085822 C1 19970727; RU 94023243 A 19960510; TW 247345 B 19950511

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