

Title (en)
Heat exchanger.

Title (de)
Wärmetauscher.

Title (fr)
Echangeur de chaleur.

Publication
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Application
EP 89123336 A 19891218

Priority
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Abstract (en)
The heat exchanger (1), provided in particular as a refrigerant condenser, is described which consists of a multiplicity of flat tubes (2) extending in parallel and corrugated ribs (3) arranged therebetween. The ends of the flat tubes are connected in corresponding openings in the floor (6) of a connection box (5). In this arrangement, the tube ends have a round cross-section and owing to radial pressure bear securely against the material of the connection box. The tube ends are soldered to the connection box (5). <IMAGE>

Abstract (de)
Es wird ein insbesondere als Kältemittelkondensator vorgesehener Wärmetauscher (1) beschrieben, der aus einer Vielzahl parallel verlaufender Flachrohre (2) und dazwischen angeordneten Wellrippen (3) besteht. Die Enden der Flachrohre sind in entsprechenden Öffnungen im Boden (6) eines Anschlußkastens (5) angeschlossen. Dabei weisen die Rohrenden einen runden Querschnitt auf und liegen durch radiale Pressung sicher am Material des Anschlußkastens an. Die Rohrenden sind mit dem Anschlußkasten (5) verlötet.

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Citation (search report)
• [Y] EP 0255313 A2 19880203 - SHOWA ALUMINIUM CO LTD [JP]
• [Y] FR 2390696 A1 19781208 - MODINE MFG CO [US]
• [A] US 1856618 A 19320503 - STANLEY BROWN
• [A] US 3776303 A 19731204 - ANDERSON G, et al
• [A] EP 0177389 A1 19860409 - VALEO [FR]
• [A] US 2899177 A 19590811
• [A] FR 2447530 A1 19800822 - METALLGESELLSCHAFT AG [DE]
• [A] FR 1506321 A 19671222 - FIVES PENHOET

Cited by
DE9309822U1; FR2664370A1; DE4129573A1; EP0798531A1; FR2793013A1; EP0745821A1; EP0450619A1; US5236044A; EP0521489A1; US5297624A; EP0566899A1; EP0532794A1; FR2905453A1; GB2384848A; US5251692A; EP0519334A3; FR2660425A1; EP0593360A1; FR2696809A1; US5363911A; DE4130517A1; FR2681421A1; ES2065824A2; DE4130517B4; US6263570B1; WO9950004A1; WO2008067970A1; WO2008025817A1; EP0710811B2; EP2097707B1

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