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(30) Priority: **20.07.1999 DE 19933913**

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(54) **Automotive air conditioning system evaporator**

(57) The invention concerns an automotive air conditioning system evaporator (2) with an extended collector (4), whose collector cover is rounded for stability under pressure, divided internally across the collector into a first and a second compartment (8, 10), which are associated with an inlet and outlet for the evaporator coolant, and which exhibits divided transverse slots along its length, common to both compartments, in which is provided a flat pipe array (20), constructed for dual flow as a minimum, linked with each other by means of zig-zag fins for the purpose of heat transfer, whose ends are at any given time inserted into a transverse slot in the collector cover in such a way, that one flow (22) in the flat pipes communicates with one compartment and the other flow (24) in the flat pipes (20) communicates with the other compartment.

The invention provides for the first or second wall (32, 34) of both compartments (8, 10) formed by the collector cover at any given time to be configured as a rounded tube for pressure stability.

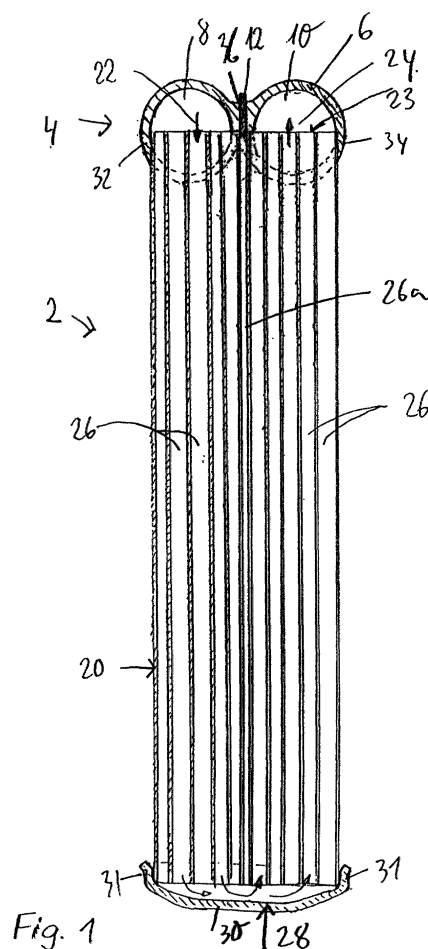


Fig. 1

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EUROPEAN SEARCH REPORT

Application Number
EP 00 11 5565

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
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Y	* column 2, line 59 - line 64; figure 1 * ---	2,3,8,15	
D,Y	US 5 174 373 A (SHINMURA TOSHIHARU) 29 December 1992 (1992-12-29) * abstract; figures * * column 6, line 4 - line 24 * ---	2,3,15	
Y	US 4 381 033 A (WOODHULL JR IVAN D ET AL) 26 April 1983 (1983-04-26) * column 7, line 52 - column 8, line 46; figures 10-12 * ---	8	
X	US 5 190 101 A (JALILEVAND ALI ET AL) 2 March 1993 (1993-03-02) * abstract; figures 3,5 * ---	1,4,7	
A	EP 0 442 646 A (MODINE MFG CO) 21 August 1991 (1991-08-21) * column 5, line 8 - line 23; figure 3 * ---	1	
A	US 5 479 985 A (YAMAMOTO KEN ET AL) 2 January 1996 (1996-01-02) * abstract; figures * -----	1	
-The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 27 June 2001	Examiner Mootz, F
<p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</p> <p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document</p>			

EPO FORM 1503 03/82 (P4/C01)



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CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing more than ten claims.

☐ Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims and for those claims for which claims fees have been paid, namely claim(s):

☐ No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims.

LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

see sheet B

☐ All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.

☐ As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.

☐ Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:

☒ None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:

1-8, 15, 16



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**LACK OF UNITY OF INVENTION
SHEET B**

Application Number
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The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

1. Claims: 1-8,15,16

Automotive evaporator having a collector defining first and second compartments of circular cross section

2. Claims: 9-14

Joining of pipes to slots in collector

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 00 11 5565

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
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27-06-2001

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