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(54) Heat exchanger with adapter

(57) The lack of flexibility in selecting locations for inlets or outlets or crossovers for a heat exchange fluid in a heat exchanger can be minimized in a heat exchanger construction including first and second spaced, generally parallel, tubular headers (10,12) having opposed ends with a plurality of tubes (20) in parallel and spaced from one another which extend between and

have their ends in fluid communication with the interior of the headers (10,12). An adapter (90) in fluid communication with the interior of the headers (10,12) is fixed to the exterior of the heat exchanger to place the heat exchanger in communication with fluid conduits that may be disposed in a variety of locations in relation to the heat exchanger.

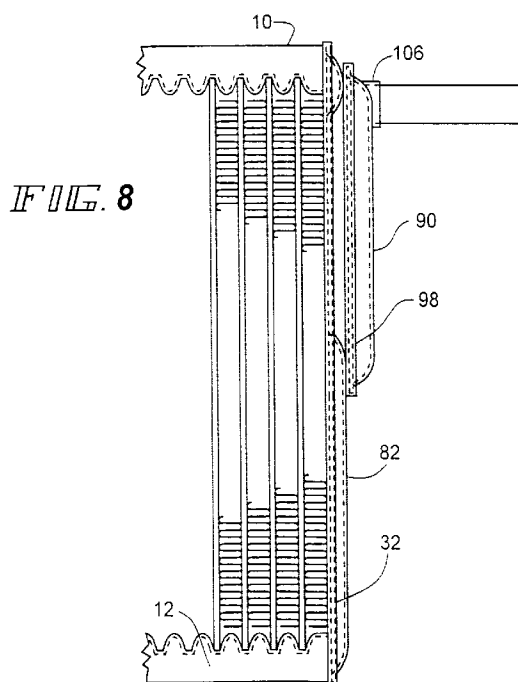


FIG. 8

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EUROPEAN SEARCH REPORT

Application Number
EP 96 30 6434

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.6)
A	PATENT ABSTRACTS OF JAPAN vol. 017, no. 635 (M-1514), 25 November 1993 & JP 05 196389 A (NIPPONDENSO CO LTD), 6 August 1993, * abstract; figures 1-3 * ---	1-4,7	F28F9/04 F28D1/03
A	US 5 327 959 A (SAPERSTEIN Z PHILIP ET AL) 12 July 1994 * column 4, line 25 - column 4, line 59; figures 1,2,6 * ---	1,2,5,6, 10,11	
A	DE 93 09 741 U (MANN & HUMMEL FILTER) 26 August 1993 * page 3, line 27 - page 4, line 32; figures 1,2 * ---	1,10,12	
A	EP 0 625 686 A (ZEXEL CORP) 23 November 1994 * column 5, line 42 - column 6, line 10 * * column 7, line 11 - column 7, line 25 * * figures 1,2,4,12 * ---	1-13	TECHNICAL FIELDS SEARCHED (Int.Cl.6)
A	US 5 042 577 A (SUZUMURA KEIJI) 27 August 1991 * column 2, line 59 - column 4, line 12; figures 1,2,5 * -----	1-13	F28D F28F
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 9 December 1997	Examiner Mootz, F
CATEGORY OF CITED DOCUMENTS 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 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			

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