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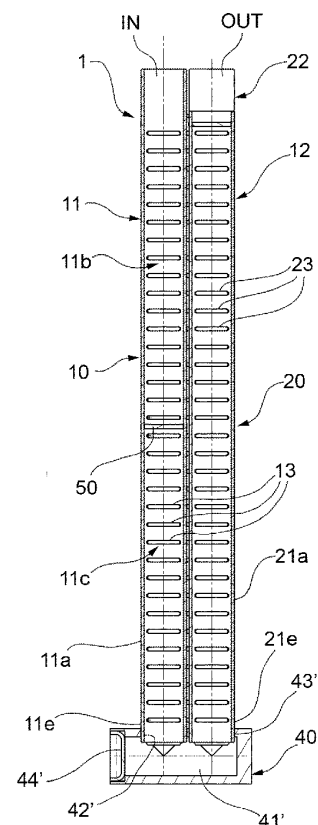
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(54) **HEAT EXCHANGER, PARTICULARLY A INNER CONDENSER FOR HEAT PUMP HVAC SYSTEMS**

(57) A heat exchanger comprises a first heat exchange row (10) and a second heat exchange row (20), and also comprises a fluid connection element (40; 40'; 40"; 40'''; 40''''') that connects a first row distributor (11) to a second row distributor (21). The fluid connection element is an element (40) which is fixedly connected to the lateral walls (11a, 21a) of the first row distributor (11) and of the second row distributor (21) and in which a plurality of conduits (41) is formed that fluidically connect the first row distributor (11) to the second row distributor (21), or is an element (40'; 40"; 40'''; 40''''') which is fixedly connected at the top to ends (11e, 21e) of the first row distributor (11) and of the second row distributor (21) and in which a conduit (41'; 41''') is formed that fluidically connects the first row distributor (11) to the second row distributor (21).



**FIG. 7**



## EUROPEAN SEARCH REPORT

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EPO FORM 1503 03.82 (P04C01)

| DOCUMENTS CONSIDERED TO BE RELEVANT                                              |                                                                               |                                                                         |                                         |
|----------------------------------------------------------------------------------|-------------------------------------------------------------------------------|-------------------------------------------------------------------------|-----------------------------------------|
| Category                                                                         | Citation of document with indication, where appropriate, of relevant passages | Relevant to claim                                                       | CLASSIFICATION OF THE APPLICATION (IPC) |
| X                                                                                | US 2013/074340 A1 (HIRAYAMA TAKASHI [JP] ET AL) 28 March 2013 (2013-03-28)    | 3, 5-7                                                                  | INV.                                    |
| A                                                                                | * figure 5 *                                                                  | 1, 2                                                                    | F28D1/02                                |
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|                                                                                  | -----                                                                         |                                                                         | F28F                                    |
| The present search report has been drawn up for all claims                       |                                                                               |                                                                         |                                         |
| Place of search                                                                  |                                                                               | Date of completion of the search                                        | Examiner                                |
| Munich                                                                           |                                                                               | 9 September 2022                                                        | Mellado Ramirez, J                      |
| CATEGORY OF CITED DOCUMENTS                                                      |                                                                               | T : theory or principle underlying the invention                        |                                         |
| X : particularly relevant if taken alone                                         |                                                                               | E : earlier patent document, but published on, or after the filing date |                                         |
| Y : particularly relevant if combined with another document of the same category |                                                                               | D : document cited in the application                                   |                                         |
| A : technological background                                                     |                                                                               | L : document cited for other reasons                                    |                                         |
| O : non-written disclosure                                                       |                                                                               | .....                                                                   |                                         |
| P : intermediate document                                                        |                                                                               | & : member of the same patent family, corresponding document            |                                         |



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**CLAIMS INCURRING FEES**

The present European patent application comprised at the time of filing claims for which payment was due.

☐ Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due 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 those claims for which no payment was due.

**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:

☐ The present supplementary 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 (Rule 164 (1) EPC).

**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, 2, 6, 7**

**Heat exchanger having a connection element with two openings  
in which the ends of the distributors are inserted**

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**2. claims: 3-5**

**Heat exchanger having a connection element formed as a  
hollow plug.**

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

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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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09-09-2022

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