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(54) **Refrigeration cycle system**

(57) The present invention relates to a refrigerant cycle system including a compressor (1), a condenser (2), a depressurizing means (4) and a evaporator (3) which are connected in series with each other to form a refrigerant circulation circuit. The refrigerant cycle system includes a heat exchanging portion (11). The heat exchanging portion (11) exchanges heat between a part of or all of the refrigerant passing through a refrigerant passage (5) from the compressor (1) to a depressurizing means (4) by way of the condenser (2) and a part of or all of the refrigerant passing through a refrigerant passage (6) from the depressurizing means (4) to the compressor (1) by way of the evaporator (3).

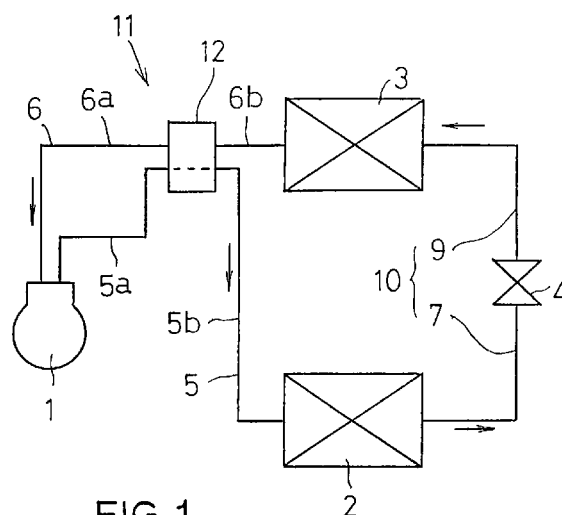


FIG. 1

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EUROPEAN SEARCH REPORT

Application Number
EP 96 11 9908

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)
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X	LU 37 363 A (AMERICAN RADIATOR & STANDARD SANITARY CORPORATION) 27 June 1959 * figures 1,2 * * page 3, paragraph 3 - page 9, paragraph 4 * ---	1,2,6	
X	AU 514 567 B (LIQUID MODULATORS INC) 19 February 1981 * figures 1-4 * * page 4, paragraph 8 - page 8, paragraph 3 * ---	1,3,4 5	TECHNICAL FIELDS SEARCHED (Int.Cl.6) F25B
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-The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 26 January 1999	Examiner Nuytens, S
<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 (P04C01)



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EUROPEAN SEARCH REPORT

Application Number
EP 96 11 9908

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)
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A	* figures 1,2 * * page 7, paragraph 3 *	10	
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			TECHNICAL FIELDS SEARCHED (Int.Cl.6)
<p>The present search report has been drawn up for all claims</p>			
Place of search		Date of completion of the search	Examiner
THE HAGUE		26 January 1999	Nuytens, S
<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>			

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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:

1-6, 10-12, 14



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LACK OF UNITY OF INVENTION
SHEET B

Application Number
EP 96 11 9908

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: 1-6,10-12,14

Heat exchanging portion in a refrigeration cycle from compressor to condenser, respectively condenser to depressurizing means, and evaporator to compressor.

2. Claims: 1,7,8,9,13

Heat exchanging portion between bypass from compressor to outlet side of condenser and outermost inner passage of evaporator.

**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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26-01-1999

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