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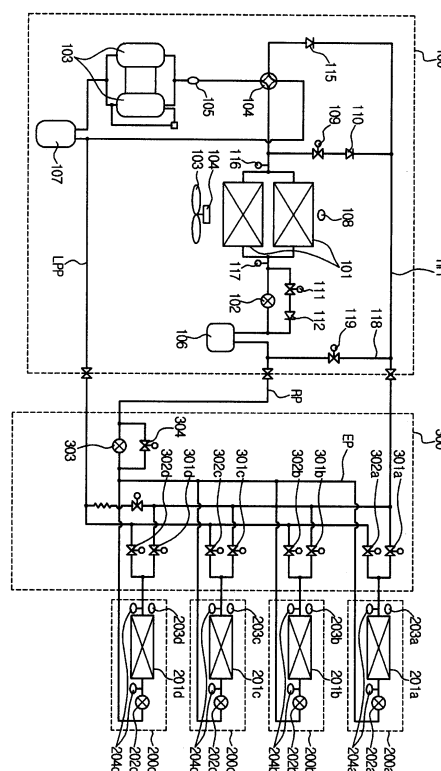
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(54) Multi-unit air conditioning system

(57) A multi-chamber type air conditioning system for simultaneously operating a plurality of indoor units in heating and cooling modes, and a method for controlling the system. The multi-chamber type air conditioning system includes a bypass circuit connected between a high-pressure gas pipe, connected between an outlet of a compressor and the indoor units, and a liquid pipe, connected between the outdoor heat exchanger and the indoor units; and a control unit for controlling the quantity of the refrigerant flowing into the indoor units, operated in a cooling mode, using the bypass circuit based on operating conditions. The multi-chamber type air conditioning system increases the quantity of a refrigerant flowing into the indoor units, operated in the cooling mode, so as not to deteriorate the cooling capacities of the indoor units, operated in the cooling mode, thereby increasing performances of the indoor units, operated in the cooling mode, when the system is operating in a main heating mode. Further, the multi-chamber type air conditioning system controls the opening degree of an outdoor electric valve such that the pressure of the refrigerant at an outlet of a compressor is in a proper range, thereby being stabilized in a short period of time.

FIG.1





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EUROPEAN SEARCH REPORT

Application Number
EP 05 10 1206

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Place of search Munich		Date of completion of the search 24 March 2006	Examiner Valenza, D
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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**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:



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: 1-6,12

A multi-chamber type air conditioning system comprising a bypass circuit connected between a high pressure gas pipe and a liquid pipe, and control unit controlling the bypass circuit.

2. claims: 7-11

A method for controlling a multi-chamber type air conditioning system comprising the steps of:
- setting an operating mode according to the total heating capacities of the indoor units;
- allowing part of the refrigerant to flow into the indoor units when a heating percentage is in a predetermined range.

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

EP 05 10 1206

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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