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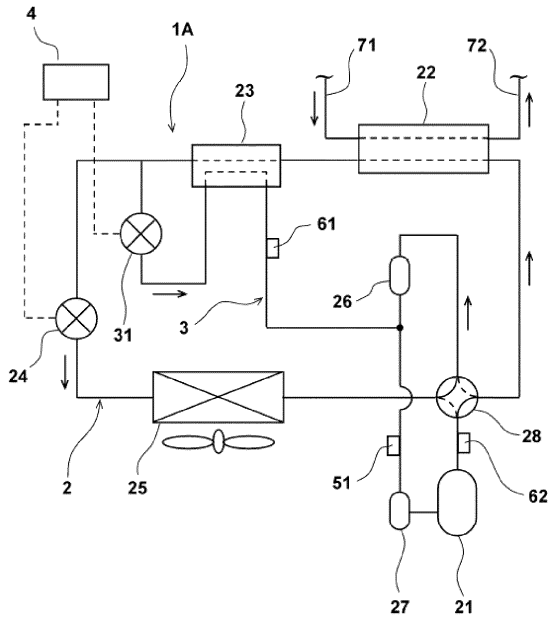
(54) **Refrigeration cycle apparatus and hydronic heater having the refrigeration cycle apparatus**

(57) A refrigeration cycle apparatus of the present invention includes a first temperature sensor (61), a pressure sensor (51), a second temperature sensor (62), and a control device (4). The control device (4) controls operation of a bypass expansion valve (31) such that a temperature at an outlet of the bypass passage (3) becomes equal to a saturation temperature in a section until a number of rotation of the compressor (21) reaches a predetermined compressor target number of rotations after the compressor (21) is actuated. When the temperature at the outlet of the bypass passage (3) reaches the saturation temperature, the control device (4) increases the number of rotation of the compressor (21) to a number of rotations of a next stage, and the control device (4) controls the refrigeration cycle into an appropriate refrigeration cycle state.

[Fig. 1]



1A refrigeration cycle apparatus
2 refrigerant circuit
3 bypass passage
4 control device
21 compressor
22 radiator
23 supercooling heat exchanger
24 main expansion valve (main expansion means)
25 evaporator
31 bypass expansion valve (bypass expansion means)
51 pressure sensor (saturation temperature detection means)
61 first temperature sensor
62 second temperature sensor

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EUROPEAN SEARCH REPORT

Application Number
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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	EP 2 320 165 A2 (PANASONIC CORP [JP]) 11 May 2011 (2011-05-11) * abstract; figures 1-6 * * paragraphs [0006], [0035], [0040] * -----	1-3	INV. F25B49/02 ADD. F25B40/02
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TECHNICAL FIELDS SEARCHED (IPC)

F25B

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
The Hague	31 March 2015	Yousufi, Stefanie

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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