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**Datasheet for the decision  
of 27 June 2014**

**Case Number:** T 1747/13 - 3.2.03

**Application Number:** 03741545.2

**Publication Number:** 1541938

**IPC:** F25B40/04, F25B13/00

**Language of the proceedings:** EN

**Title of invention:**

REFRIGERATION EQUIPMENT

**Applicant:**

DAIKIN INDUSTRIES, LTD.

**Headword:**

**Relevant legal provisions:**

EPC Art. 84, 111(1), 123(2)

**Keyword:**

Claims - clarity after amendment (yes)

Amendments - allowable (yes)

Remittal to the department of first instance - (yes)

**Decisions cited:**

**Catchword:**



**Beschwerdekammern  
Boards of Appeal  
Chambres de recours**

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Case Number: T 1747/13 - 3.2.03

**D E C I S I O N**  
**of Technical Board of Appeal 3.2.03**  
**of 27 June 2014**

**Appellant:**  
(Applicant)

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**Representative:**

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**Decision under appeal:**

**Decision of the Examining Division of the  
European Patent Office posted on 18 March 2013  
refusing European patent application No.  
03741545.2 pursuant to Article 97(2) EPC.**

**Composition of the Board:**

**Chairman** G. Ashley  
**Members:** C. Donnelly  
I. Beckedorf

## Summary of Facts and Submissions

I. The appeal lies from the decision of the examining division dated 18 March 2013 refusing European Patent application No. 03 741 545.2.

II. In its decision, the examining division held that the following features of the claim 1 under consideration:

(a) - the auxiliary refrigerant circuit (42, 242) further comprises a bypass circuit (42f) that can bypass the condenser (42b, 242b) and propagate refrigerant from the compressor (21) to the user side heat exchanger (52),

(b) the bypass circuit (42f) has a capillary tube (42g) that maintains the flow rate of the refrigerant that flows into the condenser (42b, 242b),

did not meet the requirements of Article 123(2) EPC.

In the examining division's opinion feature (a) had only been originally disclosed in claim 5, the paragraph bridging pages 16 and 17 of the description and in figures 1 and 4, in combination with a "check valve" and the definition of its position within the bypass circuit. Also, the check valve was considered to be essential to the invention since the condenser cannot be operated as intended without it, and its removal would require modification of the apparatus. Hence, the definition of feature (a) in isolation was contrary to Article 123(2) EPC.

In addition, according to paragraph 1.3 of the minutes of the oral proceedings, the examining division also considered that the failure to include this feature in

the claim resulted in a lack of clarity under Article 84 EPC.

It was also the examining division's view that the capillary tube of feature (b) is only disclosed in combination with the requirement that it corresponds to "a pressure drop in condenser open/close valve 42d". Hence the broader combination of features defined in claim 1 was contrary to Article 123(2) EPC.

Furthermore, failure to define the adjustment of the aperture of the valve 42d in feature (b) was also considered to be contrary to Article 123(2) EPC.

- III. The applicant (hereinafter the "appellant") filed a notice of appeal against this decision and presented its case in the grounds of appeal together with a new main request and an auxiliary request.
  
- IV. In a communication pursuant to Article 15(1) RPBA annexed to the summons to oral proceedings, the Board informed the appellant of its provisional opinion. In particular, the Board indicated that it considered the reasoning in the contested decision was still pertinent to the claims on file. However, it stated its intention to remit the case under Article 111(1) to the examining division for further prosecution should a set of claims that met the formal requirements of Articles 84 and 123(2) EPC be filed.
  
- V. By letter of 30 May 2014 the appellant filed a new main request comprising claims 1 to 5.

By letter of 16 June 2014 the appellant requested that the case be remitted to the examining division should the objections under Articles 84 and 123(2) EPC be overcome by the amended claims filed on 30 May 2014.

Claim 1 of the new main request reads:

"A refrigeration device (1, 101, 201), comprising:  
a main refrigerant circuit (10, 110, 210) having a  
compressor (21), a heat source side heat exchanger  
(24), and a user side heat exchanger (52);

an auxiliary refrigerant circuit (42, 242) arranged  
between the compressor of the main refrigerant circuit  
and the user side heat exchanger, and which can return  
a portion of the refrigerant that is compressed in the  
compressor and sent to the user side heat exchanger to  
the main refrigerant circuit after being condensed,  
wherein the auxiliary refrigerant circuit (42, 242)  
comprises a branching circuit (42a) that serves to  
branch a portion of refrigerant compressed in the  
compressor (21) and sent to the user side heat  
exchanger (52) from the main refrigerant circuit (10,  
110, 210), a condenser (42b, 242b) that can condense  
the branched refrigerant, and a junction circuit (42c)  
that can return the condensed refrigerant to the main  
refrigerant circuit; and

a four way switching valve (23) for switching the  
direction of the refrigerant flow when switching  
between cooling and heating operations;

**characterized in that**

the auxiliary refrigerant circuit (42, 242) further comprises a bypass circuit (42f) that can bypass the condenser (42b, 242b) and propagate refrigerant from the compressor (21) to the user side heat exchanger (52); and

the main refrigerant circuit (10, 110, 210) further comprises a check mechanism (44), which is provided between a connector that connects the branching circuit (42a) to the main refrigerant circuit and a connector that connects the junction circuit (42c) to the main refrigerant circuit, and which allows only the flow of refrigerant from the user side heat exchanger to the compressor. "

Dependent claims 2 to 5 concern preferred embodiments of the refrigeration device of claim 1.

## **Reasons for the Decision**

### *1. Articles 84 and 123(2) EPC*

1.1 Claim 1 of the main request comprises all the features of claims 1,2 and 5 as originally filed, together with the specification of a four way switching valve.

1.2 The wording of the original claim 5, which relates to the positioning of the check mechanism and reads as follows:

"....a check mechanism (44) between a connector of the branching circuit (42a) of the main refrigerant circuit and a connector of the junction circuit (42c) of the main refrigerant circuit,..."

has been amended to read:

"...a check mechanism (44), which is provided between a connector that connects the branching circuit (42a) to the main refrigerant circuit and a connector that connects the junction circuit (42c) to the main refrigerant circuit,...".

- 1.3 This amended version clarifies the position of the connectors and the check mechanism, and corresponds to the circuit diagrams of figures 1,4 and 5 of the application. The term "check mechanism" (as opposed to "check valve", which is referred to in the decision) is that of the original claim 5.
- 1.4 Claim 1 no longer includes the feature of the capillary tube, which the examining division had argued could only be specified in combination with the requirement that it "corresponds to a pressure drop in condenser open/close valve 42d". Thus, this objection no longer applies.
- 1.5 The feature of the four way valve was not objected to by the examining division and is originally disclosed for example in figures 1,4 and 5. The four way valve is also necessary to allow switching between heating and cooling modes as explained at page 11, lines 15 to 16 of the description.
- 1.6 Hence, the subject-matter of claim 1 according to the main request meets the requirements of Articles 84 and 123(2).
2. *Articles 54 and 56 EPC (Novelty and Inventive Step)*

2.1 The contested decision does not address the questions of novelty and inventive step. Consequently, under Article 111(1), the board is of the opinion that the case should be remitted to the examining division for further prosecution.

3. Oral proceedings

Since the appellant's main request for remittal has been granted there is no need for oral proceedings to be held.



## Order

### For these reasons it is decided that:

1. The contested decision is set aside.
2. The case is remitted to the examining division for further prosecution on the basis of claims 1 to 5 filed with letter of 30 May 2014.

The Registrar:

The Chairman:



C. Spira

G. Ashley

Decision electronically authenticated