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Case Number: T 2156/12 - 3.5.03

Application Number: 08017496.4

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Language of the proceedings: EN

Title of invention:
Release of stored ammonia at start-up

Applicant:
Amminex Emissions Technology A/S

Headword:
Release of stored ammonia at start-up/AMMINEX

Relevant legal provisions:
EPC Art. 52(1), 54, 111(1)

Keyword:
Novelty - main request (yes)

Decisions cited:
T 0026/86, T 0410/96, T 1018/02

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Boards of Appeal

Chambres de recours

Boards of Appeal of the
European Patent Office
Richard-Reitzner-Allee 8
85540 Haar
GERMANY
Tel. +49 (0)89 2399-0
Fax +49 (0)89 2399-4465

Case Number: T 2156/12 - 3.5.03

D E C I S I O N
of Technical Board of Appeal 3.5.03
of 23 February 2018

Appellant: (Applicant)	Amminex Emissions Technology A/S Gladsaxevej 363 2860 Søborg (DK)
Representative:	Samson & Partner Patentanwälte mbB Widenmayerstraße 6 80538 München (DE)
Decision under appeal:	**Decision of the Examining Division of the European Patent Office posted on 8 March 2012 refusing European patent application No. 08017496.4 pursuant to Article 97(2) EPC.**

Composition of the Board:

Chairman	F. van der Voort
Members:	A. Madenach
	S. Fernández de Córdoba

Summary of Facts and Submissions

I. The present appeal is against the decision of the examining division refusing European patent application No. 08017496.4, with publication number EP 2 181 963 A1. The refusal was based on the ground that the subject-matter of claim 1 of the main request and of the auxiliary request was not new (Articles 52(1) and 54(1) and (2) EPC) having regard to the disclosure of:

D1: WO 2008/077626 A2.

In particular, the examining division considered that the method-related features in claim 1 of both requests, which were used to define the claimed system, were insufficient to distinguish the claimed apparatus from prior art apparatuses.

II. The appellant requested in the statement of grounds of appeal that the decision under appeal be set aside and that a patent be granted on the basis of the claims of the main request or the auxiliary request, both filed with the letter dated 16 August 2011 and decided on by the examining division. As an auxiliary measure, oral proceedings were requested. As a further auxiliary measure, referral of a question to the Enlarged Board of Appeal was requested. With a letter dated 17 October 2017, filed in response to a communication of the board, the appellant confirmed these requests. With a further letter dated 7 February 2018, the appellant clarified that the request for oral proceedings would only apply if the case were not to be remitted to the first instance.

III. Claim 1 of the main request reads as follows:

"A system (1) for storage and dosing of ammonia that comprises a solid ammonia storage material capable of binding and releasing ammonia reversibly by adsorption/absorption, said system (1) being able to release ammonia gradually according to a demand that can vary over time with intermediate periods of no ammonia demand, said system (1) comprising:

- a main storage unit (2) and a start-up storage unit (3), the storage units holding ammonia storage material,
- at least one one-way valve (4) via which the main storage unit (2) is in communication with the start-up storage unit (3), the one-way valve (4) preventing any back-flow of ammonia from the start-up storage unit (3) to the main storage unit (2);
- heating devices (8, 9) arranged to heat the main storage unit (2) and the start-up storage unit (3) separately to generate gaseous ammonia by thermal desorption from the solid storage material;
- a controller (10) arranged to control the heating power of the main storage unit (2) and the start-up storage unit (3), thereby enabling ammonia release from the start-up and/or the main storage unit (2);
- a dosing valve (5) arranged to control ammonia flow from the storage units according to a demand;
- a pressure sensor (6) arranged downstream of the at least one one-way valve (4) to measure the pressure in connecting tubes between the at least one one-way valve (4) and the dosing valve;

characterised in that

the controller is a controller arranged to determine the pressure in the main storage unit (2) by carrying out a method during a start-up phase in which heating of the start-up storage unit (3) and the main storage unit (2) has already been started comprising:

a) interrupting ammonia release from the start-up unit (3);
b) relieving pressure in the system (1);
c) measuring the pressure, which is caused to decrease by the steps a and b, with the pressure sensor (6) downstream the at least one one-way valve (4), and inferring from this measurement the pressure of the main storage unit (2);
d) if the pressure inferred of the main storage unit has not yet reached a desired ammonia supply pressure for normal operation, resuming ammonia release from the start-up storage unit (3) and repeating the start-up phase method, or - if the pressure of the main storage unit has reached the desired ammonia supply pressure - ceasing heating of the start-up storage unit (3)."

In view of the board's conclusion, it is not necessary to give details of the auxiliary request.

Reasons for the Decision

1. Main request: Amendments (Article 123(2) EPC and clarity (Article 84 EPC)

1.1 Claim 1 is based on claims 1, 2, 4 and 9 as filed and the description as filed, pages 12, lines 31 to 34, page 19, lines 18 to 23, and page 20, lines 4 and 5, with reference to Figure 4. More specifically, from the description of this figure, i.e. page 19, lines 18 to 23, it follows that the method is only carried out during a start-up phase and that the heating of the start-up storage unit 3 and the main storage unit 2 has already been started. Further, step d) is based on claim 2 as filed and the description as filed, page 19, line 21, to page 20, line 5. The feature "which is

caused to decrease by the steps a and b" in step c) is based on the description as filed, page 12, lines 31 to 34.

1.2 The board thus concludes that claim 1 meets the requirements of Article 123(2) EPC and notes that no objections in this respect were made by the examining division in the decision under appeal or in the communication annexed to the summons to oral proceedings.

1.3 The board further notes that no clarity objections were raised by the examining division against this claim and that it sees no reason to raise an objection under Article 84 EPC of its own motion.

2. Main request: novelty (Articles 52(1) and 54 EPC)

2.1 According to the decision under appeal, D1 discloses all the features of the preamble of claim 1. The board agrees and notes that the examining division's finding in this respect was not contested by the appellant.

2.2 The features of the characterising part of the claim essentially stipulate that the controller is a controller arranged to determine the pressure in the main storage unit by carrying out a specific method.

Whereas the controller in the system of D1 is also arranged to determine the pressure in the main storage unit (page 13, lines 16-18), there is no disclosure of the controller being arranged to determine the pressure in the main storage unit by carrying out the method specifically mentioned in claim 1, as was acknowledged by the examining division (point 2.2.2, first paragraph, of the decision under appeal).

2.3 The examining division then referred in its decision (point 2.2.2, first paragraph) to the Guidelines for Examination, C-III, 4.13 and 4.14 (in the version of April 2010) and argued that the method features could not render the claimed apparatus new, since the apparatus disclosed in D1 possessed all the features relating to the apparatus as such and was clearly suitable for carrying out the process steps included in the present apparatus claim. The examining division thus concluded that the subject-matter of claim 1 lacked novelty having regard to the disclosure of D1 and noted that the same reasoning applied to claim 1 of the auxiliary request.

2.4 The board is, however, of the view that the wording "a controller arranged to determine ... by carrying out a method ..." is a definition of the controller in terms of a functional feature. Hence, it does not merely express that the controller is suitable for determining ... by carrying out a method, but that the controller is actually adapted to carry out the respective method steps. This interpretation is similar to the way claim integers of the "means plus function" type are interpreted (see T 410/96, reasons, point 6). The feature whereby the controller is arranged to determine the pressure in the main storage unit by carrying out a specific method is therefore to be understood in such a way that the controller is designed, i.e. has the capability, to carry out the respective method steps.

2.5 As concerns the passage in the Guidelines referred to by the examining division, the board notes that it states that "Apparatus for carrying out the process" must be construed as meaning merely apparatus suitable

for carrying out the process. An apparatus which otherwise possesses all of the features specified in the claims but which would be unsuitable for the stated purpose or which would require modification to enable it to be so used, should normally not be considered as anticipating the claim.

In the present case, even if the claim were to be interpreted, as it was by the examining division, such that the controller merely needs to be suitable for carrying out the process steps, the board notes that in D1 there is no disclosure which would permit the conclusion that the controller in the system of D1 is at least suitable to perform the various method steps a) to d) of claim 1. For the processor of D1 to be suitable to carry out the process steps of claim 1 (see point III above, steps a) to d)), specific features in this respect would be required, which could be implemented either by hard-wiring or by programming, none of which is mentioned in D1 or implied by the disclosure of D1.

2.6 In its decision (point 2.2.2, second paragraph), the examining division further argued that T 1018/02, which was referred to by the applicant, was not relevant to the present case, since it applied to the field of computer-implemented inventions, whereas present claim 1 merely used a controlling computer to perform certain process steps, which was essentially different from "the method steps carried out by the program running on the controller".

The board does not agree and firstly notes that the interpretation given in point 2.4 above holds true irrespective of whether the claimed method steps are carried out by a controller which is hard-wired for

this purpose or by a program-controlled digital controller. Secondly, in the latter case, i.e. a program-controlled digital controller, following T 1018/02, in which it was held that in the field of computer-implemented inventions, a controlling computer is normally defined in terms of the program running on it (point 3.7 of the reasons), the claimed controller would be defined in terms of a program running on it, in which the program executes the respective method steps and, hence, the board would have no difficulty in accepting that this system would qualify as a computer-implemented invention in the sense of T 1018/02.

The examining division further argued that computer-implemented inventions were concerned with the interaction of software and hardware, and thus with computers and the way they were programmed, and that present claim 1 was not concerned with the way the controlling computer is programmed, but was merely using a controlling computer to perform certain process steps. The board disagrees. According to claim 1, if implemented by means of a program-controlled digital controller, there would indeed be an interaction between the software or program running on the controller and the hardware of the claimed system in that at least steps a), b) and c) clearly relate to an interaction between the software running on the controller and the system's hardware.

The examining division further argued that claim 1 was not specifically about the interaction of software with the controller, but rather about the dosing of ammonia and, hence, did not define a specific arrangement of the controller which would otherwise make it possible to distinguish it from known apparatuses. The board notes, however, that defining the functioning of the

controller in terms of software interacting with the controller is not a requirement in order to be able to distinguish it from known controllers. Reference is made, for example, to T 26/86, which relates to an X-ray unit ("Röntgeneinrichtung") with a data processing unit ("Datenverarbeitungseinheit") on which a particular computer program ("Ablaufprogramm") for controlling the X-ray unit runs. This case is comparable with the present case in that a technical device, i.e. the X-ray unit (in the present case, a system for storage and dosing of ammonia), comprises a computing device, i.e. the data processing unit (in the present case, a program-controlled digital controller), on which a program runs for controlling the technical device. In T 26/86, the board concluded that the program running on the data processing unit rendered the claimed apparatus new over the available prior art (see reasons, point 4).

The examining division further argued that any computer could be used to perform the method steps according to the characterising part of claim 1. However, this does not take into account that, following T 1018/02 (reasons, point 3.7), the claimed controller, if implemented as a program-controlled digital controller, would be defined in terms of the program running on it.

2.7 The board therefore concludes that the features of the characterising part of claim 1 have to be fully taken into account when considering the question of novelty of the claimed subject-matter.

2.8 Since, for the reasons set out above, D1 does not disclose the characterising features of claim 1, the subject-matter of claim 1 is new having regard to D1

(Articles 52(1) and 54 EPC).

2.9 It follows that the decision under appeal is to be set aside. Since the decision is to be set aside, there is no need to hold oral proceedings, as conditionally requested by the appellant.

3. As the decision under appeal only dealt with the question of novelty of the subject-matter of claim 1 having regard to the disclosure of D1, the board considers it appropriate to remit the case to the department of first instance for further prosecution on the basis of the claims of the main request (Article 111(1) EPC).

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.

2. The case is remitted to the examining division for further prosecution on the basis of the claims of the main request.

The Registrar: The Chairman:

G. Rauh F. van der Voort

Decision electronically authenticated