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**Datasheet for the decision
of 20 August 2008**

Case Number: T 0673/05 - 3.3.05

Application Number: 02797563.0

Publication Number: 1423340

IPC: C02F 9/14

Language of the proceedings: EN

Title of invention:

A method of biologically purifying waste water and a plant preferably a mini purification plant to be used by the method

Applicant:

KWH Pipe (Danmark) AS

Headword:

Purification plant/KWH PIPE

Relevant legal provisions:

EPC Art. 54(1)(2), 84, 123(2)
EPC R. 43(1)(3)

Relevant legal provisions (EPC 1973):

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Keyword:

"Added subject-matter (no)"
"Clarity (yes) - essential features inserted"
"Novelty (yes)"
"Remittal (yes)"

Decisions cited:

T 0409/91

Catchword:

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Case Number: T 0673/05 - 3.3.05

D E C I S I O N
of the Technical Board of Appeal 3.3.05
of 20 August 2008

Appellant: KWH Pipe (Danmark) AS
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Representative: Christensen, Bent
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Decision under appeal: Decision of the Examining Division of the
European Patent Office posted 14 January 2005
refusing European application No. 02797563.0
pursuant to Article 97(1) EPC 1973.

Composition of the Board:

Chairman: G. Rath
Members: J.-M. Schwaller
H. Preglau

Summary of Facts and Submissions

- I. This appeal lies from the decision of the examining division to refuse European patent application No. 02 797 563.0.
- II. The contested decision was based on the claims of the application as filed, independent claims 1, 4 and 7 of which read as follows:

"1. A method of biologically purifying waste water, said method including the following steps in the following sequence:

- a) a step of decomposing organic matter*
- b) a sludge precipitation step*
- c) a clarification step and*
- d) a nitrification step*

followed by a completing secondary clarification step, characterised in that said method prior to step a) includes

a₀) an aeration step for stripping off H₂S and other gases and for removing bactericides from the water.

4. A plant for the biological purification of waste water, said plant including a unit for decomposing organic matter, a first sludge settling unit, a nitrification unit and a completing sludge settling unit, characterised in said plant includes an aerated primary settling unit prior to these units.

7. An aerated primary settling tank having a circular or edged shape for use in a plant according to claim 6, characterised by said tank being divided by a partition wall, a pipe or a similar device not extending to the

bottom, by a diffusor or the like being positioned at the bottom for providing air inlet, and by said tank preferably having a volume of between 50 litres and 25 cubic metres."

III. In the decision, the examining division held that claim 1 lacked novelty over document:

D1: US 3 764 523,

that claim 4 lacked an inventive step over document D1 and that claim 7 lacked novelty over document:

D2: DE 197 20 983 A1.

IV. With the grounds of appeal dated 12 May 2005, the appellant filed an amended set of claims 1 to 5 as the sole request.

V. In response to a communication annexed to the summons to oral proceedings, in which the board inter alia raised clarity and novelty objections, the appellant submitted on 25 July 2008 another amended set of claims 1 to 3 as the sole request.

VI. During the oral proceedings, which took place on 20 August 2008, after discussion of the amended claims of 25 July 2008 as to their allowability under Articles 123(2), 84 and 54 EPC, the appellant handed over the following set of three claims as the sole and unique request:

"1. A method of biologically purifying waste water, especially from private households, said method including the following steps in the following sequence:

a) a step of decomposing organic matter including aeration

b) a sludge precipitation step

c) a clarification step and

d) a nitrification step including aeration

followed by a completing secondary clarification step, characterised in that said method prior to step a) includes

a₀) an aerated primary settling step for stripping off H₂S and other gases and for removing bactericides from the water by means of a diffuser yielding an air flow of 10 to 100 litres per minute per 100 litres of vessel volume.

2. A purification plant for the biological purification of waste water according to claim 1, said plant having a capacity of 5-30 population equivalents (PE) and including:

- a primary chamber (2) with an immersed bio filter (3), said bio filter being aerated by a diffuser (4) positioned beneath the filter unit,

- a settling tank (5) collecting the sludge from the biological process as said sludge is fed back into the primary settling tank (1) by means of a pump system, preferably an airlift pump (6),

- a vertical settling tank (7),

- a secondary chamber (8), which in the same way as the primary chamber (2) is equipped with an immersed biofilter (3') aerated by a diffuser (4') positioned beneath the filter unit, and

- a secondary settling tank (9), from which the purified water is discharged to the recipient through an outlet,

characterized in that the plant prior to these units includes an aerated primary settling unit (1) for stripping of H₂S and other gases and for removing bactericides from the water.

3. A plant according to claim 2, characterized in that the aerated primary settling unit having a circular or edged shape is divided by a partition wall, a pipe or a similar device not extending to the bottom, that a diffuser or the like is positioned at the bottom for providing air inlet, and that said unit preferably has a volume of 50 litres and 25 cubic meters."

VII. The appellant requested that the decision under appeal be set aside and that a patent be granted on the basis of the claims 1 to 3 submitted during the oral proceedings before the board.

Reasons for the Decision

1. *Allowability of the amendments under Article 123(2) EPC*

The amended claims 1 to 3 of the present request find their support as follows in the application as filed (i.e. in its version published as WO 03/020650 A1):

- Claim 1: in claims 1, 2 and in Figure 1.

- Claim 2: in claim 6 and in the description at page 1, lines 4 to 9; page 3, lines 4 to 14; page 4, lines 17 to 20.
- Claim 3: in claim 7.

The pending claims therefore do not extend beyond the content of the application as filed and so meet the requirements of Article 123(2) EPC.

2. *Clarity / Essential features*

2.1 In accordance with Article 84 EPC, the claims must be supported by the description. This means that their scope must not be broader than is justified by the extent of the description and drawings and also the contribution to the state of the art (T 409/91, OJ 9/1994, 653). According to Rule 43(1) EPC, the claims shall define the matter for which protection is sought in terms of the technical features of the invention, and in accordance with Rule 43(3) EPC, an independent claim must contain all essential features.

2.2 In these respects, the board's concerns about the breadth of the claims and/or the lack of essential features in the earlier claims on file are considered overcome by the amendments carried out for the following reasons:

2.2.1 Independent method claim 1 submitted at the oral proceedings before the board recites the feature that an air flow of 10 to 100 litres per minute per 100 litres of vessel volume is generated in the aerated primary settling step. As far as the application shows

that an air flow of 40 l/min for a tank having a volume of 275 litres significantly improves the efficiency of a downwardly located nitrification step (see Example), the board no longer has any reason to believe that the scope of claim 1 as regards the air flow would be unjustified.

2.2.2 Similarly, independent plant claim 2 includes the apparatus features which emerge as essential from the application, in particular from the Figure, said features being suitable for and necessary for giving the skilled person a technical teaching for satisfactorily carrying out the biological purification method defined in claim 1.

2.3 The other amendments to the claims, in particular the deletion of the term "mini", the clarification of the abbreviation "PE" or the specification of the steps sequence, are considered to overcome the Article 84 EPC objections previously raised by the board.

3. *Novelty*

D1 does not disclose an aerated primary settling step including a diffuser yielding an air flow of 10 to 100 litres per minute per 100 litres of vessel volume, as defined in present independent claim 1.

D1 also does not disclose a combination of a primary settling unit suitable for stripping off H₂S and other gases and for removing bactericides from water in sequence with a primary chamber with an immersed biofilter aerated by a diffuser, as presently defined in independent claim 2.

Therefore the novelty objection based on document D1 raised in the communication annexed to the summons to oral proceedings no longer applies and the board concludes that the subject-matter claimed is new within the meaning of Articles 52(1) and 54(1)(2) EPC over D1.

4. *Remittal*

The board notes that, although the inventive step issue was addressed in the decision under appeal, it concerned only one type of independent claim, namely the apparatus claim 4 as originally filed, which related to a plant for the biological purification of waste water. As present independent plant claim 2 is much more restricted than apparatus claim 4, which was held not to involve an inventive step in the contested decision, and as the inventive step issue raised in the contested decision did not concern any method claim, the board considers it appropriate under these circumstances to exercise the power conferred on it by Article 111(1) EPC to remit the case to the examining division for further prosecution, thus giving the appellant the opportunity to argue its case as amended before two instances.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The case is remitted to the department of first instance for further prosecution.

The Registrar:

The Chairman:

S. Sánchez Chiquero

G. Rath