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Datasheet for the decision of 8 June 2010

Case Number: T 0485/05 - 3.3.05

Application Number: 98923710.2

Publication Number: 1017628

IPC: C02F 1/00

Language of the proceedings: EN

Title of invention:
Water treatment system having dosing control

Patentee:
OTV SA

Opponent:
Millipore Corporation

Headword:
Water treatment system/OTV

Relevant legal provisions:
EPC Art. 54, 56

Relevant legal provisions (EPC 1973):
-

Keyword:
"Novelty (main request - auxiliary requests 1 and 2): no - prior use - sale without confidentiality obligation"
"Inventive step (auxiliary requests 3 and 4): no - conventional design elements"

Decisions cited:
G 0001/92

Catchword:
-

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Case Number: T 0485/05 - 3.3.05

D E C I S I O N
of the Technical Board of Appeal 3.3.05
of 8 June 2010

Appellant: (Patent Proprietor)
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Decision under appeal:
Decision of the Opposition Division of the European Patent Office posted 11 February 2005 revoking European patent No. 1017628 pursuant to Article 102(1) EPC.

Composition of the Board:

Chairman: G. Raths
Members: E. Waeckerlin
H. Preglau

Summary of Facts and Submissions

I. The appeal is from the decision of the opposition division revoking the European patent No. 1 017 628.

II. Claim 1 of the patent as granted reads as follows:

"1. A water treatment system (10) having dosing control, comprising:

a water inlet (12) hydraulically connected to a pump (16) having a variable speed motor (M) and producing a pump output;
at least one water treatment device (18, 22, 26) hydraulically connected downstream of said pump (16);
at least one outlet valve (30) hydraulically connected downstream of said water treatment device; and
a recirculation line (32) hydraulically connected from said outlet valve (30) to said pump (16),

wherein said pump output is controlled by a regulating device connected to said variable speed motor;
said regulating device including a controller (46) and an input device (44) to provide an input signal, which represents a desired flow rate at said outlet valve (30), to said controller (46); and
said controller (46) converting said input signal to a motor control signal that causes said variable speed motor (M) to operate at a speed which causes the flow of water at said outlet valve (30) to correspond to the desired flow rate."

III. During the opposition procedure the opponent argued *inter alia* that water treatment systems corresponding to claim 1 of the opposed patent had been sold to various customers before the date of priority of the patent, i.e. 20 May 1997, without any secrecy agreement. In view of the public prior use of these systems the subject-matter of claim 1 of the patent in suit lacked novelty. In support of the arguments relating to prior public use, *inter alia* the following documents were referred to by the opponent:

O4: *"Milli-Q® Ultrapure Water Systems"*.
[Product brochure] PB141DOM, Bedford (MA, USA), Millipore Co., 3/97, 16 pp.

O6: *"Elix™ Systèmes de Purification d'Eau"*.
[Product brochure] PB140/F, France, Millipore Co., 7/96, [9 pp.];

O8a: *"Milli-Q Power Control Boards and Software"*.
[Extract from:] "1998 - RiOs/Elix/Milli-Q/AFS: PC Board & software description (Rev. 1)", p. 36 - 64;

O8b: *"Section 2: Milli-Q"*.
[Extract from:] "Service Manual - RiOs/Elix/Milli-Q & AFS Systems - (REV 1)", p. 28 - 41;

O11: Statutory Declaration (Affidavit) by Mr Francois Viot dated 29 July 2003 relating to sales of *"Elix"* and *"RiOs"* systems during the period from 29 January and 19 May 1997;

O12: Statutory Declaration (Affidavit) by Mr Francois Viot dated 29 July 2003 relating to the installation of a *"Milli-Q Gradient"* and a *"Milli-Q Academic"* system at Hoechst Marion Roussel, Romainville (France) on 19 February 1997 and at CEA, Pierrelatte (France) on 21 March 1997;

O13: Two undated forms (O13a and O13b, respectively), *"Installed Base Update Form for France",* pertaining to the sales according to O12:

O13a: *"Installed Base Update Form for France"* relating to the installation of a system "Milli-Q Gradient" at Hoechst Marion Roussel, Romainville (France). Order date 19 February 1997, [1 p.];

O13b: *"Installed Base Update Form for France"* relating to the installation of a system *"Milli-Q Academic"* at CEA, Pierrelatte (France). Order date 21 March 1997, [1 p.];

O14: *"WorldWide Sales on ELIX from Q496 - Q 497"*. A list of worldwide sales of *"Elix"* devices to 192 customers in various countries, covering the period from 28 January 1997 to 16 May 1997. [Sales list, 4 pp.].

Subsequently the opponent submitted further evidence including, in particular, the following documents:

O16: *"Déclaration par écrit sur l'honneur"* by Ms Annie Michaud dated 13 December 2004 relating to the installation of the *"Milli-Q Academic"* device having the serial number F7CM29628K at "Collège de

France", Paris;

O18: *"Certificat d'installation - mise en route"* dated 16 May 1997 relating to the *"Milli-Q"* device having the serial number F7CM29628K at *"Collège de France"*, Paris;

O19: *"Déclaration par écrit sur l'honneur"* by Mr Jean Marie Pagès dated 13 December 2004 relating to the installation of the *"Elix 5"* device having the serial number F6PM23758D at *"Faculté de Médecine"*, Marseille;

O21: *"Certificat d'installation - mise en route"* dated 3 January 1997 relating to the *"Elix 5"* device having the serial number F6PM23758D and the *"Milli-Q"* device having the serial number F6NM12676G at *"Faculté de Médecine"*, Marseille.

IV. In the impugned decision the opposition division held that the water treatment system of the model *"Milli-Q Academic"* was sold and installed at *"Collège de France"* on 16 May 1997, i.e. before the date of priority of 20 May 1997. Since the sale was unconditional, there was no bar of confidentiality restricting the use of the system or the dissemination of information relating to it. On the basis of the evidence on file, as well as the demonstration of the *"Milli-Q Academic"* device at oral proceedings held on 18 January 2005, the opposition division concluded that said device exhibited all features of the system according to claim 1 of the patent in suit. In particular the pump output of the *"Milli-Q Academic"* device was controlled by a regulating device connected to a variable speed

motor. Therefore the system according to claim 1 of the patent in suit lacked novelty.

V. The grounds of appeal were submitted by the appellant with letter dated 10 June 2005.

The respondent filed extensive comments with letters dated 13 December 2005 and 28 May 2010, respectively. Together with the second letter the respondent submitted a technical drawing representing a circuit diagram of a control board for water purification systems:

O22: *"Control Board / 1996 Purification Systems"*. Prototype 2, DRG No. PF0 5161, Millipore SA, St. Quentin en Yvelines, 06/11/95, [1 p.].

VI. Oral proceedings were held on 8 June 2010. At the beginning of the oral proceedings the appellant filed a first and a second auxiliary request. During the debate the appellant modified its second auxiliary request by effecting various amendments to the claims. Moreover the appellant submitted a third and a fourth auxiliary request.

The objections raised by the respondent under Article 100(a) EPC against claim 1 of the main request and of the first to fourth auxiliary requests were discussed. In particular, the objections on grounds of lack of novelty based on the allegation of prior public use, as well as objections under Articles 123(2) EPC and Article 84 EPC, were addressed in detail.

VII. The wording of claim 1 of the first to fourth auxiliary requests is as follows (emphasis added by the board):

First auxiliary request:

*"1. A **method of providing treated water using water** treatment system (10) having dosing control, comprising:*

a water inlet (12) hydraulically connected to a pump (16) having a variable speed motor (M) and producing a pump output;
at least one water treatment device (18, 22, 26) hydraulically connected downstream of said pump (16);
at least one outlet valve (30) hydraulically connected downstream of said water treatment device; and
a recirculation line (32) hydraulically connected from said outlet valve (30) to said pump (16),

*wherein **when the outlet valve is opened, the pump is in a water dispensing mode,** said pump output **has a pump output rate which is adjusted by the user in a stepwise manner or continuously, and** is controlled by a regulating device connected to said variable speed motor;*
said regulating device including a controller (46) and an input device (44) to provide an input signal, which represents a desired flow rate at said outlet valve (30), to said controller (46); and
*said controller (46) converting said input signal to a motor control signal that causes said variable speed motor (M) **operating** at a speed which causes the flow of water at said outlet valve (30) to correspond to the desired flow rate."*

Second auxiliary request:

*"1. A **method of providing treated water using a** water treatment system (10) having dosing control, comprising:*

a water inlet (12) hydraulically connected to a pump (16) having a variable speed motor (M) and producing a pump output;
at least one water treatment device (18, 22, 26) hydraulically connected downstream of said pump (16);
at least one outlet valve (30) hydraulically connected downstream of said water treatment device; and
a recirculation line (32) hydraulically connected from said outlet valve (30) to said pump (16),

*wherein **when the pump is in a water dispensing mode,** said pump output **has a pump output rate which is adjusted by the user in a stepwise manner or continuously, and** is controlled **by the user and** by a regulating device connected to said variable speed motor;*
said regulating device including a controller (46) and an input device (44) to provide an input signal, which represents a desired flow rate at said outlet valve (30), to said controller (46); and
*said controller (46) converting said input signal to a motor control signal that causes said variable speed motor (M) to operate at a speed **between zero and a pre-determined maximum speed** which causes the flow of water at said outlet valve (30) to correspond to the desired flow rate."*

Third auxiliary request:

Claim 1 of the third auxiliary request has the same wording as claim 1 of the patent as granted, except that it is specified that the input device includes ***"a potentiometer or an angle encoder"***.

Fourth auxiliary request:

"1. A water treatment system (10) having dosing control to regulate a system output, said water treatment system (10) comprising:

a water inlet (12) hydraulically connected to a pump (16);
at least one water treatment device (18, 22, 26) hydraulically connected downstream of said pump (16);
at least one outlet valve (30) hydraulically connected downstream of said water treatment device;
a recirculation line (32) hydraulically connected from said outlet valve (30) to said pump (16); and
a proportional valve (48) hydraulically connected downstream of said output valve,

wherein said system output is controlled by a regulating device connected to said proportional valve (48);
said regulating device including a controller (46) and an input device (44) to provide an input signal, which represents a desired flow rate at said proportional valve (48), to said controller (46); and
said controller (46) converting said input signal to a valve control signal that causes said proportional valve (48) to open at a cross-section which causes the

flow of water at said proportional valve (48) to correspond to the desired flow rate."

VIII. The arguments of the appellant, as far as they relate to issues dealt with in this decision, can be summarised as follows:

Regarding the alleged public prior use of the *"Milli-Q"* device, the only established fact is that such a device was installed at *"Collège de France"* on 16 May 1997. The remaining comments are based on allegations. In particular there is no evidence in support of the argument that the relevant functions of the claimed water treatment system were available before the date of priority. There is no proof that the *"Milli-Q"* device contained a pump driven by a motor having a variable speed. There is no proof either that the pump output of the *"Milli-Q"* device was continuously variable. On the contrary the *"Milli-Q"* device was based on a constant output flow.

Even if the assumption is made that the speed of the motor of the *"Milli-Q"* can be adjusted, such an adjustment did not form part of the disclosure, since it was hidden to the user. Some software of the *"Milli-Q"* device, notably the subcategory *"service adjust V motor"*, was only accessible to the service engineer. The hidden features and functions of the *"Milli-Q"* device can not be considered to be in the public domain. Moreover, on the occasion of the demonstration of the *"Milli-Q"* device before the opposition division, the respondent had failed to specify which exact features of the *"Milli-Q"* device equated to each feature of claim 1 of the patent in suit.

The appellant denied that the *"Milli-Q"* device was equipped with a regulating device causing a desired flow rate, which, by changing the speed of the motor of the pump, provides a continuously variable flow of water that corresponds to the desired flow rate at the outlet valve. Therefore the alleged prior public use was not prejudicial to the novelty of the system according to the patent-in-suit. In any case the appellant should be given the benefit of the doubt.

IX. The respondent submitted that, contrary to the view expressed by the appellant, the *"Milli-Q"* device was equipped with a motor having variable speed, a controller and an input device for controlling the speed of the motor. Thus, the desired flow of water at the outlet valve could be controlled. In the respondent's view it was immaterial whether this capability was at the disposal of all users of the *"Milli-Q"* device or restricted to a special service operation mode. For these reasons, the respondent considered that the prior public use of the *"Milli-Q"* device was novelty destroying for the claimed system according to the patent in suit.

Having regard to the water treatment system according to independent claim 4 of the main request, which is identical to claim 1 of the fourth auxiliary request, the respondent submitted that the use of a proportional valve for controlling the output flow rate is a simple matter of design and does not involve an inventive step.

X. The appellant requested that the decision under appeal be set aside and the patent be maintained as granted (main request) or, in the alternative, on the basis of the first, second, third or fourth auxiliary request.

The respondent requested that the appeal be dismissed. In addition the respondent requested not to admit the second, third an fourth auxiliary request to the proceedings, because these requests represented late filings.

Reasons for the Decision

1. *Admissibility of the second, third an fourth auxiliary request*

1.1 In the present case the appellant's second, third and fourth auxiliary request, each accompanied by a set of amended claims, were presented for the first time during the oral proceedings before the board of appeal.

1.2 The board notes that the facts of the case have remained the same during the oral proceedings, so that no further investigation was required to assess the merits of the auxiliary requests in dispute. Moreover, the amendments to the claims were sufficiently simple and straightforward to allow a comprehensive analysis without postponement of the oral proceedings.

1.3 Under these circumstances the board exercises its discretionary power to admit the second, third and fourth auxiliary request to the proceedings.

2. *Allowability of the amendments - Article 123(2),(3) EPC*

The question whether the amendments to the claims of the various auxiliary requests are in conformity with the provisions laid down in Article 123(2),(3) EPC does not need to be examined in detail, since the patent in suit has to be revoked for other reasons.

3. *Novelty - Article 54 EPC*

Claim 1 of the main request

3.1 Disclosure of document O4

3.1.1 In document O4 a series of eight models of a water treatment system having dosing control is described. These systems are marketed under the name *"Milli-Q®"*. The series comprises a standard model called *"Milli-Q Academic"* and seven models having the same basic configuration but including further elements such as a UV-lamp (e.g. *"Milli-Q Gradient"*), a capillary-fiber ultrafiltration unit (e.g. *"Milli-Q Biocel"*) and/or a built-in monitoring device for the total organic carbon (TOC) level (see O4, page 14, Table *"Milli-Q System Configurations"*).

All models of the *"Milli-Q"* series, including in particular the basic *"Milli-Q Academic"* model, comprise the following elements:

A water inlet (see O4, page 5, Figure 2, reference sign 1 *"inlet solenoid valve"*) hydraulically connected to a pump (see O4, page 5, Figure 2, reference sign 2) producing a pump output; and

three water treatment devices, namely a purification pack, a cartridge for the removal of ionic and organic contaminants and a filter unit for the final filtration (see O4, page 5, Figure 2, reference signs 3 *"Q-Gard Pack"*, 4 *"Quantum Cartridge"*, 7 *"Millipack Filter"*) hydraulically connected downstream of the pump. Furthermore the *"Milli-Q"* devices are equipped with an outlet valve hydraulically connected downstream of the water treatment devices; and
a recirculation line hydraulically connected from the outlet valve to the pump (see O4, page 5, Figure 2, reference sign 6 *"POU Valve"*).

According to O4 the *"Milli-Q"* devices can be operated in a *"pre-operate"* or *"standby"* mode during *"non use periods"*, i.e. periods where the system is not in the dispensing mode. In the *"pre-operate"* mode the pump keeps the water moving through the system. A selection can be made between continuous recirculation at reduced flow rate or intermittent recirculation at full flow rate, the pump operating at a reduced rate (see O4, page 6, left column, lines 4 - 13). There can be no doubt that such a mode of operation requires the presence of a pump having a variable speed motor, as well as of a regulating device connected to the variable speed motor for controlling the pump output. Thus, these features form part of the implicit disclosure of O4.

The image of a *"Milli-Q Academic"* model represented in O4 shows that the device is equipped with a display and a keypad comprising a key or button labelled *"OPERATE/STANDBY"* (see O4, page 3, top of the image, first button far left). By using the latter, the

operator can switch between the operating mode and the standby mode of the device. In other words the device is equipped with an input device, namely the *"OPERATE/STANDBY"* key or button, to provide an input signal, which represents the desired mode and, thus, the desired flow rate at the outlet valve. Moreover, the input signal is converted to a motor control signal that causes the variable speed motor to operate at a speed which causes the flow of water at the outlet valve to correspond to the desired flow rate. This requires necessarily the presence of a controller.

3.1.2 On the basis of the considerations outlined above the description of the various *"Milli-Q"* models contained in O4, and including in particular the model *"Milli-Q Academic"*, discloses all features of the water treatment system according to claim 1 of the patent in suit in combination.

3.2 Disclosure of document O6

3.2.1 Document O6 discloses three models of a water treatment system marketed under the name *"Elix 3"*, *"Elix 5"* and *"Elix 10"*, respectively. All *"Elix"* models comprise a water inlet hydraulically connected to a pump producing a pump output (see O6, unnumbered page 14, drawing, reference signs 2, 3, 4). Various water treatment devices, including a reverse osmosis cartridge and a module containing an anion exchange resin and membranes, are arranged downstream of the pump (see O6, unnumbered page 9, left hand column, lines 4 - 29; unnumbered page 14, drawing, reference signs 7, 11; unnumbered page 12, section *"Module Elix"*). There is also an outlet valve connected downstream of one of the water treatment

devices, namely the reverse osmosis cartridge, as well as a recirculation line hydraulically connected from the outlet valve to the pump (see O6, unnumbered page 14, drawing, reference signs 10 *"electrovanne de rinçage"*, and line from 10 to 9, 3 and 4).

The pump pressure is controlled automatically in order to compensate the effect of temperature on the reverse osmosis, thus providing in the operation mode a constant flow rate at the outlet valve (see O6, unnumbered page 9, right hand column, second paragraph and drawing). As in the case of the *"Milli-Q"* system, the *"Elix"* devices are equipped with a display and an input device in the form of an *"OPERATE/STANDBY"* key or button (see O6, unnumbered pages 1, 3 and 5; unnumbered page 10, left hand column, top of the image). In the view of the board, this implies that the *"Elix"* devices comprise a pump having a variable speed motor which is controlled by a regulating device including an input device and a controller as described in claim 1 of the patent in suit.

3.2.2 The board concludes, therefore, that the *"Elix"* devices disclosed in O6 show all features of the water treatment system according to claim 1 of the patent in suit in combination.

3.3 Prior use

3.3.1 The respondent contended that water treatment devices exhibiting all features recited in claim 1 of the patent in suit had been sold to a large number of customers before the date of priority of the patent in suit, i.e. before 20 May 1997.

3.3.2 In support of the allegation of prior public sales, the respondent submitted the documents O11, O12, O13 and O14.

3.3.3 In the board's view none of the documents O11 to O14 is conclusive regarding certain circumstances relating to the sales, notably the respective dates at which the water treatment devices were effectively delivered and installed, so that it became possible for the customers to gain knowledge of the devices and to use them. In this context the board observes that the date of sale is not necessarily identical with the date at which the object of the sale is made available to the customer, since the two dates may be different. For these reasons the documents O11 to O14 cannot be regarded as a sufficient substantiation of the alleged prior public sale.

3.3.4 Documents O16, O18, O19 and O21 provide comprehensive information on two specific sales which took place before the priority date of the patent in suit. These facts were not contested by the appellant.

According to O16, a declaration in writing by Ms A. Michaud, an employee of *"Collège de France"*, Paris, the *"Milli-Q Academic"* device having the serial number F7CM29628K was delivered, installed and put into operation on 16 May 1997 at *"Collège de France"*, Paris (see O16, page 1, point 2). This is confirmed by the installation report O18 dated 16 May 1997 and signed by Ms A. Michaud in her capacity as representative of the customer. There existed no express agreement of confidentiality or secrecy between the seller

"Millipore S.A." and the customer *"Collège de France"* (see O16, page 1, point 4). On the basis of the evidence on file, there existed no tacit confidentiality agreement either.

According to O19, a declaration in writing by Mr J.-M. Pagès, an employee of the *"Faculté de médécine"*, Marseille, the *"Elix 5"* device having the serial number F6PM23758D was delivered, installed and put into operation in January 1997 at the *"Faculté de médécine"*, Marseille (see O19, page 1, point 2). This is confirmed by the installation report O21 dated 3 January 1997 and signed by Mr J.-M. Pagès in his capacity as representative of the customer. Again there is no evidence that there existed an express or tacit agreement of confidentiality or secrecy between the seller and the customer (see O19, page 1, point 4).

3.3.5 The *"Milli-Q Academic"* device having the serial number F7CM29628K and the *"Elix 5"* device having the serial number F6PM23758D were the object of a demonstration effected by the respondent during oral proceedings held on 18 January 2005 before the opposition division.

According to the minutes of the oral proceedings, it was demonstrated that the speed of the pump of the *"Milli-Q Academic"* device can be varied while the system is dispensing water (see minutes, sheet 1, point 3). In order to get access to this function, three of the four buttons or keys of the keyboard, namely *"Measure"*, *"Cleaning"* and *"Menu"* have to be pushed down simultaneously. As a result a service menu appears on the display, which allows to adjust the speed of the motor of the pump continuously by setting

a value between 18 % and 100 %, depending on the desired flow rate at the outlet valve (see decision under appeal, sheet 6, fourth paragraph).

Furthermore it was shown during the demonstration that the menu of the *"Elix 5"* device provides also the option to set a variable factor of the flow (see minutes, sheet 1, point 3).

3.3.6 Apparently no internal inspection of the *"Milli-Q Academic"* device and the *"Elix 5"* device was made during the course of the oral proceedings before the opposition division. Nevertheless the results of the demonstration imply that the following components formed part of the configuration of the two devices: (i) a variable speed motor, (ii) a regulating device for controlling the pump output, connected to the variable speed motor, (iii) an input device in the form of a keyboard allowing to set a desired value on the display, and (iv) a controller for converting the input signal to a corresponding motor control signal.

3.3.7 Having regard to the foregoing, the board concludes that the *"Milli-Q Academic"* and the *"Elix 5"* devices which were the object of the demonstration before the opposition division exhibited all features of the water treatment system as defined in claim 1 of the patent in suit.

3.3.8 The appellant did not contest the date and the precise object of the prior use. What was contested, however, were the circumstances of the prior use.

In the appellant's view the service manual O8b indicates that the variation of the pump motor of the *"Milli-Q"* device was not intended to be accessible to customers (see ground of appeal, page 3, second paragraph, lines 2 - 12; page 4, fourth paragraph, lines 1 - 6; page 10, paragraph 5, lines 7 - 9). When demonstrating the *"Milli-Q"* device, the respondent's technical expert had to use software described in O8a as being accessible only to service engineers, namely the menu *"ADJUSTMENT"*, which includes a sub category *"SERVICE ADJUST. V. MOTOR"* (see O8a, page 54, Diagram, box at the top and box *"Adjustment"*). To vary the speed of the motor of the pump during the outflow of water from the *"Milli-Q"* device, the technical expert of the respondent had to access and operate the service menu whilst holding a cup for the outflow of water and holding the outlet arm. This did not form part of the public teaching of O4. Moreover, the *"Milli-Q"* device had no *"desired flow rate"* entity in its own right as required by claim 1 of the patent in suit (see grounds of appeal, page 6, fourth paragraph, lines 1 - 6; page 4, third paragraph, lines 2 - 5). Therefore, the appellant concluded that the prior use of the *"Milli-Q"* device is not prejudicial to the novelty of the water treatment system according to claim 1 of the patent in suit.

3.3.9 In short, the appellant contended that the function of the adjustment of the speed of the pump motor had not been made available to the public, since only *"service engineers"* were able to access the service menu containing this functionality. Thus, the variation of the speed of the motor and, consequently, the adjustment of the flow of water to a desired value,

represented a *"hidden"* feature, which was not disclosed as such by the use of the *"Milli-Q"* device.

3.3.10 The board is not convinced by this argumentation. As has been shown by the respondent, access to the service menu of the *"Milli-Q"* device, including the sub category of the adjustment of the voltage of the pump motor, could be achieved by a simple operation, namely by pressing down simultaneously three buttons or keys of the keypad. The skilled person was in a position to explore the various functions accessible via the keypad, including the adjustment of the speed of the motor, by analysing the device from the outside, if necessary by means of trial and error.

There was no need to open or disassemble any parts of the device for this purpose, since the access to the service menu by using the keypad was expressly foreseen by the manufacturer of the *"Milli-Q"* device. Moreover, the analysis of the functions of the device did not require any specific instructions provided by the manufacturer, for example in the form of a service manual or a description of the software of the system.

In this respect, the board refers to the decision of the Enlarged Board of Appeal G 1/92, according to which the composition of a product is contained in the state of the art when the product as such is available to the public and can be analysed and reproduced by a skilled person, irrespective of whether or not particular reasons can be identified for analysing the composition (see G 1/92, OJ EPO, 1993, conclusions 1 and 2; headnotes 1 and 2).

3.3.11 When arguing that the possibility of adjusting the speed of the pump motor of the *"Milli-Q"* device was not made available to the public in the absence of an explicit instruction, the appellant introduces, in fact, an additional requirement for the device to be available to the public with all its functions. This additional requirement is that the skilled person should be able to recognise *a priori*, on the basis of the common general knowledge, which functions the commercially available device might have. However, such an additional requirement would not be in agreement with the essence of the decision G 1/92, where only the analysability and reproducibility of the product are required for its composition to be state of the art.

3.3.12 Regarding the need to access and operate the service menu whilst holding a cup for the outflow of water and holding the outlet arm during the demonstration of the *"Milli-Q"* device, the board observes that said demonstration did not take place in a laboratory under standard laboratory conditions, but as part of oral proceedings before the opposition division. Therefore, it is immaterial that the demonstration may have involved a number of minor practical inconveniences.

3.4 For the reasons given above the board concludes that the water treatment system according to claim 1 of the main request lacks novelty having regard to each of the disclosures provided by O4, O6 and the prior public use of the *"Milli-Q"* device, respectively.

Claim 1 of the first auxiliary request

3.5 Claim 1 of the first auxiliary request is essentially distinguished from claim 1 of the main request by the change of category from a product claim to a method claim, and by the proviso according to which the pump output rate is adjusted *"by the user"*.

3.6 The board notes that nowhere in the patent in suit there is any definition of the term *"user"* within the meaning of the patent in suit. Therefore it has to be understood that the common meaning of the term applies, namely any person who is using the water treatment system. It goes without saying that the feature of adjustment of the output rate *"by the user"* cannot establish the novelty of the method according to claim 1 of the first auxiliary request over the public prior use of the *"Milli-Q"* device.

Claim 1 of the second auxiliary request

3.7 Claim 1 of the second auxiliary request relates also to a method and contains the proviso that the pump output rate is adjusted *"by the user"*. Moreover, it is stated in claim 1 that the variable speed motor is operated at a speed between zero and a pre-determined maximum speed.

3.8 However, the indication of a range "*between zero and a pre-determined maximum speed*" cannot confer novelty over the range *"between 18 % and 100 %"* representing the adjusting range of the speed of the pump motor of the *"Milli-Q"* device (see decision under appeal, point 3.2, page 6, fourth paragraph, lines 8 - 10).

Therefore, the method according to claim 1 of the second auxiliary request lacks novelty over the prior public use of the *"Milli-Q"* device.

Claim 1 of the third and fourth auxiliary request

3.9 Claim 1 of the third auxiliary request corresponds to claim 1 of the main request, except that it is stated that the input device includes a potentiometer or an angle encoder.

3.10 Claim 1 of the fourth auxiliary request corresponds essentially to claim 1 of the main request, except that the system is equipped with a proportional valve hydraulically connected downstream of the output valve.

3.11 Having regard to the distinguishing features set out above, the water treatment systems according to claim 1 of the third and fourth auxiliary request are novel.

4. *Inventive step - Articles 52(1) and 56 EPC*

4.1 It remains to be examined whether the systems according to claim 1 of the third and fourth auxiliary request involve an inventive step as required by Articles 52(1) and 56 EPC.

Claim 1 of the third auxiliary request

4.2 The invention as defined in claim 1 of the third auxiliary request concerns a water treatment system.

4.3 The closest state of the art is represented by the *"Milli-Q"* device, which was made available to the public by prior use.

4.4 Having regard to the closest prior art, the technical problem underlying the invention can be seen in providing a water treatment system equipped with an input device to provide an input signal representing a desired flow rate at the outlet valve.

4.5 As a solution to this problem a water treatment system according to claim 1 of the third auxiliary request is suggested. This system is characterised in that it comprises a potentiometer or an angle encoder as the input device.

4.6 In the board's view there are no doubts that the technical problem is solved by selecting a potentiometer or an angle encoder as the input device.

4.7 The board observes that potentiometers and angle encoders are well known input devices and, as such, conventional means for providing input signals to controllers. In the patent in suit they are mentioned as examples beside key pads, rotating handles and the like (see patent, column 3, lines 50 - 56). Nothing in the description of the patent in suit suggests that the use of a potentiometer or an angle encoder gives rise to any technical effects going beyond the normal functions of these elements.

4.8 The board concludes, therefore, that the water treatment system according to claim 1 of the third auxiliary request is obvious having regard to the

closest state of the art, i.e. the *"Milli-Q"* device, taken in combination with the general technical knowledge of the skilled person.

Claim 1 of the fourth auxiliary request

4.9 Regarding the system according to claim 1 of the fourth auxiliary request, the technical problem posed consists in providing a water treatment system, which allows to control the flow of water downstream the output valve.

4.10 As a solution to this problem it is proposed to equip the system with a proportional valve hydraulically connected downstream of the output valve, in accordance with claim 1.

4.11 In the board's view there are no doubts that the technical problem is solved by providing a proportional valve as set out in claim 1.

4.12 The board observes that it is well known to the skilled person that proportional valves are suited for circuits that need to vary the flow.

4.13 For this reason, the board concludes that the water treatment system according to claim 1 of the fourth auxiliary request is obvious having regard to the closest prior art, taken in combination with the general technical knowledge of the skilled person.

4.14 It follows from the foregoing that the water treatment systems according to claim 1 of the third and fourth auxiliary request do not involve an inventive step as required by Article 52(1) and 56 EPC.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar: The Chairman:

C. Vodz G. Raths