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**Datasheet for the decision
of 10 January 2020**

Case Number: T 2155/16 - 3.2.04

Application Number: 09015603.5

Publication Number: 2201885

IPC: A47L15/42, D06F39/00

Language of the proceedings: EN

Title of invention:

Dishwasher

Patent Proprietor:

Whirlpool EMEA S.p.A.

Opponents:

Arçelik Anonim Sirketi
Electrolux Appliances Aktiebolag

Headword:

Relevant legal provisions:

EPC Art. 123(2), 54, 56

Keyword:

Amendments - allowable (yes)

Novelty - main request (yes)

Inventive step - main request (yes)

Decisions cited:

T 1404/05, T 0183/09

T 1404/05, T 0183/09



Beschwerdekammern

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Case Number: T 2155/16 - 3.2.04

D E C I S I O N
of Technical Board of Appeal 3.2.04
of 10 January 2020

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Decision under appeal:

Interlocutory decision of the Opposition
Division of the European Patent Office posted on
1 August 2016 concerning maintenance of the
European Patent No. 2201885 in amended form.

Composition of the Board:

Chairman W. Van der Eijk
Members: J. Wright
 C. Kujat

Summary of Facts and Submissions

- I. The appeals were filed by the appellant-opponents 1 and 2 against the interlocutory decision of the opposition division, in which it found that the patent in suit (hereinafter "the patent"), as amended according to auxiliary request 1, meets the requirements of the EPC.
- II. Oral proceedings were held before the Board of Appeal on 10 January 2020.
- III. The appellant-opponents request that the decision under appeal be set aside and that the patent be revoked.

The respondent-proprietor requests that the decision under appeal be set aside and that the patent be maintained in amended form on the basis of the main request filed with letter of 10 December 2019, or, in the alternative, on the basis of one of auxiliary requests 1, 5 or 6 also filed on 10 December 2019.

- IV. The claims of the main request that are relevant for this decision read as follows:

"1. An operating method for a dishwasher comprising:
- a washing compartment (2) designed to accommodate the articles to be washed;
- spraying means (3) for spraying a washing liquid in the washing compartment (2);
- a motor-driven pump (4);
- ducting means (5) for connecting the washing compartment (2) and the spraying means (3), said pump (4) being located along the ducting means (5) in order to pump the washing liquid from the washing compartment (2) to the spraying means (3);

- means (6) for determining at least one physical property of the washing liquid, comprising a washing liquid turbidity sensor (60) located in the washing compartment (2) or along the ducting means (5) and designed to detect the dirtiness of the washing liquid at the sensor (60) itself;
- a first rack (71) on which the articles to be washed can be placed, the spraying means (3) comprising a first sprayer (31) located under the first rack (71);
and
- shutoff means (7) for shutting off the washing liquid and preventing the washing liquid from passing through the first sprayer (31);
wherein
 - i. at least during each reading performed by the sensor (60) to measure the dirtiness of the washing liquid, the dishwasher (1) adopts a first operating reference condition where the flow processed by the pump (4) substantially always adopts the same predetermined value;
 - ii. during a time interval before and/or after the adoption of said first operating reference condition, the dishwasher (1) adopts a washing operating condition where the flow processed by the pump (4) adopts at least one non zero value different from that adopted during the first operating reference condition, and
 - iii. at least during each reading performed by the sensor (60) to measure the dirtiness of the washing liquid, the shutoff means (7) prevents the washing liquid from flowing into the first sprayer (31) at least during a lapse of time immediately preceding the reading performed by the sensor (60) to measure the dirtiness of the washing liquid, the lapse of time being between 15 seconds and 4 minutes."

"8. The operating method for a dishwasher according to any of the foregoing claims, characterized by comprising a checking phase intended to check that a correct amount of rinse aid is dispensed into the washing liquid in the dishwasher (1), wherein the dishwasher (1), at least during each reading performed by the sensor (60) for checking correct dispensing of the rinse aid, adopts a second operating reference condition in which the flow processed by the pump (4) substantially always adopts the same predetermined value."

V. In the present decision, reference is made to the following documents :

D1 : EP 2022384 B1

D2 : WO 2009/004014

D9 : WO 96/21391

D10: US 2004/0079400

D18: JP 2006-81629 A, filed as D2A (with translation into English) by the appellant-opponent 2 with letter of 8 December 2016.

VI. The appellant-opponents' arguments can be summarised as follows:

The respondent-proprietor's main request is late filed and should not be admitted into the proceedings. Claims 1 and 8 add subject matter extending beyond the application as filed. Claim 1 as amended extends the protection conferred, is insufficiently disclosed and lacks clarity. The subject matter of claim 1 lacks novelty and inventive step with respect to various documents.

VII. The respondent-proprietor has provided counter arguments in defence of the main request. They have also raised the issue of admittance of document D18.

Reasons for the Decision

1. The appeals are admissible.

2. Introduction

The patent relates to a dishwasher which measures dirtiness of the water pumped through it (see published patent specification, paragraph [0001]). It is known to do this using a turbidity sensor in order to select appropriate washing parameters, for example the number of rinses (see specification, paragraphs [0002] and [0003]). Turbidity measurements can be distorted due to, for example, turbulence in the pumped water, leading to the selection of inappropriate washing parameters. An aim of the invention is to avoid this problem (see specification, paragraphs [0006] to [0008]). To this end (see claim 1) a shutoff means prevents liquid from flowing into the first sprayer whilst the sensor performs a reading and for a period immediately beforehand.

3. Admissibility of the main request

3.1 The main request was filed shortly before the oral proceedings before the Board. Although claim 1 was unamended (as deemed allowable by the opposition division), claim 8 was amended. Therefore, the request amounts to an amendment to the appellant's case in the sense of Article 13 of the Rules of Procedure of the

Boards of Appeal (RPBA) 2007 and its admittance is subject to the Board's discretion.

3.2 Under Article 13(3) RPBA 2007, any amendments sought to be made after oral proceedings have been arranged shall not be admitted if they raise issues which the Board or the parties cannot reasonably be expected to deal with without an adjournment.

3.3 An approach frequently adopted by the Boards when exercising their discretion in admitting an amendment filed shortly before or during oral proceedings (see CLBA, V.A.4.5.1) can be summarised as follows: unless good reasons exist for filing the amendment so far into the proceedings, for example if it is occasioned by developments in the proceedings, it will be admitted only if, amongst other things, it is clearly allowable. In accordance with established jurisprudence, amended claims are clearly allowable if the Board can quickly ascertain that they overcome all outstanding issues without raising new ones, see for example, T 183/09, reasons 4.

3.4 In the present case, the issue of added subject matter in claim 8 was raised by the appellants-opponents in their grounds of appeal. Therefore, the issue was not occasioned by the Board's comments on these objections in their communication and a timely response thereto would have been to file suitably amended claims with the reply to the appeals. Therefore, in this case, it is appropriate for the Board to consider whether the amended main request is clearly allowable.

The Board notes that the appellant-opponent 2's objection to claim 8 (see letter of 8 December 2016, page 4) was essentially that the step of checking the

correct amount of rinse aid to have been dispensed was only originally disclosed using the sensor mentioned in claim 1, whereas claim 8 makes no mention of this feature.

It was immediately apparent to the Board that amended claim 8 refers to the sensor of claim 1. Therefore, claim 8 appears to overcome the objections raised, at least by the appellant-opponent 2, with respect to claim 8. Moreover, the amendment does not raise new issues. On the face of it, the amendment uses original wording from the application as filed (see published patent application, paragraph [0028]). Moreover, since the amendment only concerns a dependent claim, it has no effect on the remaining issues raised by the appellant-opponents, which relate to independent claim 1. Therefore, the Board considered the amendment to be clearly allowable. Following the approach outlined above, the Board decided to admit the new main request into the proceedings.

4. Added subject matter, Article 123(2) EPC, main request, claim 1
- 4.1 Interpretation of the last feature of claim 1
 - 4.1.1 The Board agrees with the appellant-opponents that the last feature (iii) of claim 1 is not ideally formulated.
 - 4.1.2 In particular, the first occurrence of the words "at least" thus at the minimum, are followed by a statement of what is to happen for the duration of a sensor reading: shutoff means are to prevent washing liquid flowing into the first sprayer. In the Board's view, the skilled person will not assume that this definition

of what is to happen (shutoff) is negated for the reason that it is followed, without a comma, by the repetition of the words "at least...". In other words, the skilled person will understand that when the sensor takes a reading, the shutoff means operates.

After this second "at least", another time period (lapse of time immediately preceding the reading...) is specified, without saying what is to happen in this time period.

- 4.1.3 In the Board's view, the skilled person, with their mind willing to understand, will interpret the second (lapse of time) period as a further minimum time period when the shutoff means prevents washing liquid flowing into the first sprayer. This is because preventing flow with the shutoff means is the only action defined in the entire feature. So the second "at least during a lapse of time...", as with the first, can only refer to this action. Therefore, the skilled person will interpret the whole feature to mean: at least, that is at the minimum, the shut off means prevents washing liquid from flowing both during a reading and during a lapse of time immediately preceding the reading.
- 4.1.4 The description (see published patent specification) confirms this interpretation. According to paragraph [0042], liquid is prevented from flowing through the first sprayer during each sensor reading. Then in paragraph [0052], the shutoff means is said to also prevent washing liquid from flowing into the first sprayer during a lapse of time preceding the reading. Therefore the skilled person will be in no doubt that the above interpretation is correct.

- 4.1.5 The appellant-opponents have also argued that flowing *into* and *through* are different things and that this last claim feature only defines the shutoff means to prevent washing liquid flowing *into*, but not *through*, the first sprayer during the first reading. The Board disagrees.
- 4.1.6 The claim already defines (last bullet point) that the shutoff means is for shutting off the washing liquid and preventing washing liquid from passing *through* the first sprayer. In other words, this is what happens when the shutoff means operates. The skilled person has this in mind when they read in feature iii that, during a reading performed by the sensor, the shutoff means prevents washing liquid from flowing *into* the first sprayer. This can but likewise happen when the shutoff means is in operation. Therefore, the claim defines the shutoff means to prevent washing liquid from flowing both *into* and *through* the first sprayer.
- 4.1.7 Looking at the issue a different way, the skilled person will come to the same conclusion: The claim defines a one directional flow system (see 4th bullet point of claim 1), with a pump pumping from the washing compartment to a spraying means. Therefore, the skilled person reads the rest of the claim with this in mind, not with the mind of one conjecturing that washing fluid might leak back in the opposite direction when the pump is turned off, as the appellants have argued.

So, any shutoff means that prevents washing liquid flowing *into* a sprayer (from where it can be sprayed out) must likewise prevent it flowing *through* the sprayer and vice versa.

4.2 In summary, the skilled person interprets claim 1 to define, amongst other things, a shutoff means that shuts off flow of dishwashing fluid into/through a first sprayer both during a reading performed by a turbidity sensor and for a lapse of time of between 15 seconds to 4 minutes before the reading.

4.3 In view of this interpretation, the Board holds that the subject matter of claim 1 is directly and unambiguously disclosed in the combination of original claims 1, 7 and 9 to 11.

In particular, original claim 7 defines that shutoff means prevents liquid flowing through the first sprayer and operates at least during each sensor reading. Claim 9 depends on claim 7 and further defines that shutoff means prevents liquid flowing into the first sprayer during a lapse of time immediately preceding each reading. Claim 10 defines the lapse of time to be between 15 seconds to 4 minutes and claim 11 that the sensor is a turbidity sensor. Therefore, the Board considers that claim 1 does not add subject matter extending beyond the application as filed.

4.4 Added subject matter, claim 8

4.4.1 The appellant-opponents have argued that there is no original disclosure of a checking phase intended to check a correct amount of rinse aid is dispensed and that a method of operating a dishwasher for checking correct dispensing of rinse aid using a (turbidity) sensor is only originally disclosed in conjunction with a series of specific steps which have not been claimed, including, amongst other things, a comparing step, in which the change between two sensor measurements is

compared to a minimum value (cf. application as filed, paragraph [0064] and claim 13). The Board disagrees.

- 4.4.2 It is true that the wording "checking phase" does not occur in the application as filed. However, paragraph [0028] explains that the sensor could be used for checking the correct amount of rinse aid has been dispensed. In the Board's view, the skilled person would understand that this checking cannot happen instantaneously. For one thing, it involves adopting a second operating reference condition (application as published, column 3, line 51). Thus, the checking process has a certain duration, which amounts to the same thing as a phase. Therefore, the Board sees no subject matter added by using the term "checking phase" in claim 8.
- 4.4.3 Furthermore, the Board does not see the remaining features of claim 8 (in summary: during a reading for checking correct dispensing of rinse aid adopting a second operating reference condition) as being an intermediate generalisation of an embodiment (cf. application as published, paragraph [0064] and claim 13).
- 4.4.4 This is because, rather than the claim features being a selection of only some features of paragraph [0064], they are originally disclosed independently in paragraph [0028]. This paragraph is not part of a detailed description of the embodiment including paragraph [0064]. Rather, it makes a general statement about a particular application of the sensor (checking rinse aid), which the skilled person reads independently of the details given in paragraph [0064].

4.4.5 In this general statement, the concept of, amongst other things, a comparison step is absent. Rather, only the features of using the sensor and the machine adopting a second operating reference condition are present. Both of these features are in claim 8.

4.4.6 Therefore, the Board considers that claim 8 does not add subject matter extending beyond the application as filed.

5. Extension of protection, sufficiency of disclosure and clarity

In its communication of 16 August 2019 in preparation for the oral proceedings, the Board gave a provisional opinion that none of these issues prejudiced maintenance of the patent with claim 1 as amended according to the present main request. The appellant-opponents have not commented on these aspects of the provisional opinion. Nor does the Board see any reason to change this opinion. The Board therefore confirms its provisional opinion on these matters.

The Board's reasoning on these matters, as presented in its communication, is as follows:

"3. Amendment extending protection conferred, Article 123(3) EPC

Claim 1 has all the features of granted claims 1 and 7-9. Therefore the Board is unable to identify in what way the amendment to claim 1 (by the addition of features) might have extended the protection conferred.

4. Sufficiency of disclosure and clarity

4.1 The Board considers that the skilled person would be able to carry out the invention. They read that flow into the first sprayer should be prevented at least during measurement and at least before measurement. This, with a mind willing to understand, the skilled person would understand to mean that both for a time before and at measurement, flow should be prevented. Therefore, this aspect of the invention appears to be sufficiently disclosed and the skilled person will, in the Board's view, have no difficulty in carrying out the invention.

4.2 Clarity is not a ground of opposition, and can only be examined in opposition under Article 101(3) EPC when, and then only to the extent that the amendment introduces non-compliance with Article 84 EPC (see G3/14, headnote).

In the present case, the above features (see claim 1, step iii) were already present in granted claims 1 and 7. Therefore, following the above decision the Board does not have the power to examine the clarity of these features."

6. Novelty, main request, claim 1

6.1 Interpretation of the term "shutoff means"

6.1.1 A usual meaning (see Oxford English Dictionary - online) of the term "shutoff" is, something which shuts off: a tap, valve. In the claim context (see claim 1, the last bullet point), the Board considers that the skilled person will understand it, as such, as any means that causes the interruption of flow of washing liquid to the first sprayer. Nor is this in dispute.

6.1.2 The appellant-opponents have argued that the claimed shutoff means could be the pump defined in claim 1 (see third bullet point). The Board disagrees.

6.1.3 Nothing in the claim itself suggests that the pump and shutoff means can be the same entity. Rather, since the claim defines these using different terms, the Board holds that the skilled person would interpret them to be separate entities. In other words, the Board considers claim 1 to define a method of operating a dishwasher that has both a pump and a shutoff means.

This interpretation is consistent with the decision T1404/05 (see reasons, point 3.6), according to which (in summary), a narrow interpretation of the scope of the claim, should be arrived at on the basis of the wording of the claim, and not on the basis of something appearing only in the description. Whether or not the appellant-opponents might consider the Board's interpretation of claim 1 to be narrow, since the Board arrives at it from the claim wording itself, rather than extrapolating it from the features of a particular embodiment, the Board's approach is consistent with T1404/05.

6.1.4 Nor does the Board come to a different conclusion in the light of claim 7 of the main request (which defines a means for changing the geometry of the ducting for achieving the first operating reference [flow] condition). In this respect, the appellant-opponents have observed that paragraph [0065] of the published patent specification explains that flow adjustment can be achieved by adjusting the pump or adjusting duct geometry changing means and cites the same time period of 15 seconds to 4 minutes as the lapse of time during which the shutoff means operates according to claim 1

(cf. claim 1, last feature). From this observation they infer that the duct geometry changing means can be the shutoff means. Therefore, so the argument goes, in the patent, different terms can be used to define the same entity and so this must apply to the pump and shutoff means. The Board does not find this argument convincing.

- 6.1.5 Neither claim 7 nor paragraph [0065], with its duct geometry changing means, talks about shutting off flow. Rather, they are concerned with achieving a certain reference flow condition, irrespective of the time for which this occurs.

The step of preventing washing liquid from flowing through the first sprayer (in other words shutting off flow) is described separately in paragraph [0069], which makes no mention of changing duct geometry. The paragraph starts: "Advantageously, the method also comprises the step of preventing washing liquid from flowing...". Thus, it describes a *further* step to what was hitherto explained. Therefore, it does not suggest that shutoff means and duct geometry changing means are two terms defining the same entity. Therefore, the inference that, in the patent, the pump and shutoff means of claim 1 can be the same entity is moot.

- 6.1.6 Furthermore, the Board is not convinced by the appellant-opponents' contention that the shutoff means could be the pump's control means, capable of instructing the pump to stop and thus shut off flow and, being a different entity from the pump itself, would be consistent with the claim assigning them different names (pump and shutoff means).

No such control means is defined in the claim, so such a reading of the claim is purely speculative. Moreover, although a pump might have a separate control means, such a control means would merely be capable of controlling the pump. It would not *itself* be able to shut off and prevent the passage of washing liquid, as claim 1 defines the shutoff means to do.

6.1.7 The Board concludes that claim 1 defines a pump and shutoff means which are different entities. By the same token, the claim excludes any control means the pump might have from being the claimed shutoff means.

6.2 Main request, claim 1, novelty with respect to D2

6.2.1 D2 discloses a dishwasher 1 with turbidity sensor 5 (abstract and figure 1), and its implied method of operation. The dishwasher has all the usual features such as a washing compartment, spraying means pump etc. (see for example paragraph [0017] with figure 1).

6.2.2 D2 (see for example paragraph [0011]) discloses to take turbidity measurements when only one sprayer is operating. In the Board's view, this implies that washing liquid supply to the other sprayer is turned off, so the dishwasher has a shutoff means. D2 also discloses to adopt a pump flow first operating reference condition different from its working condition when no measurement is taken (see for example paragraph [0010], last five lines and paragraph [0024]), thus D2 discloses steps i and ii of claim 1.

6.2.3 However, in the Board's opinion, D2 does not directly and unambiguously disclose the last claim feature, iii (shutoff means prevents flow to 1st sprayer immediately

prior to reading for a lapse of time between 15 seconds and 4 minutes).

- 6.2.4 The appellant-opponents have argued that this feature is implied in D2, since readings should be made with high accuracy (see paragraph [0007]), and this necessarily requires the washing liquid to be still for at least 15 seconds. The Board disagrees.
- 6.2.5 D2 itself explains different ways of achieving accurate turbidity readings. Some do not involve delaying taking a turbidity reading until washing liquid has settled. For example, one way is to take a large number of readings and find an average, another to accurately calibrate the sensor (cf. D2, paragraphs [0004] and [0006]). Therefore, the Board holds that D2's stating the aim of achieving high accuracy does not imply delaying taking a turbidity reading until after washing liquid has settled.
- 6.2.6 Nor, in any case, have the appellant-opponents provided any evidence to prove that, were the skilled person to wait before taking a reading until washing liquid in the machine had settled (which the Board holds not to be disclosed in D2) the skilled person would know that this waiting time could not be less than 15 seconds.
- 6.2.7 In this context, the appellant-opponents have also cited paragraph [0005], which makes reference to a further prior art document in which turbidity measurements are only made after a settling time has expired. However, in accordance with established jurisprudence (see CLBA I.C.5.1 and in particular T0291/85, reasons 9.4) if a citation gives detailed information about a further development of a prior art described only in very general terms without quoting a

specific source, it is not permissible in examining for novelty to combine these general statements with the specific statements made solely in order to explain the said development unless a person skilled in the art would have made the combination when reading the citation.

6.2.8 In the present case, D2 does not disclose a link between the invention described and the prior art cited in paragraph [0005], which happens to be D18. Rather, the citation is merely introduced as "another implementation known in the technique" (for measuring turbidity accurately, cf. paragraph [0003]). Therefore, D2, paragraph [0005], does not imply that the invention elsewhere described in D2 involves any features of D18, let alone, delaying taking a turbidity measurement for a time after turning off a sprayer.

6.2.9 The Board concludes that D2 does not disclose the feature of delaying turbidity measurement for a period of between 15 seconds and 4 minutes as claimed. Therefore, D2 does not take away novelty of claim 1.

6.3 Main request, claim 1, novelty with respect to D18

6.3.1 D18 discloses a dishwasher, and thus also a method of operating it. The dishwasher concerned has (see paragraph [0037]) a washing compartment 2, spraying means, that is a first sprayer (with nozzle 4) located under a first rack (figure 1), a motor driven pump 5 and ducting between washing compartment and spraying means, along which the pump is located (see figure 1).

6.3.2 Moreover, D18 (see abstract) discloses a dishwasher with turbidity sensing in which washing liquid is not allowed to flow to a sprayer for a period of time prior

to reading turbidity. Thus the dishwasher adopts a first operating reference condition as claimed. This period allows to stabilise a turbidity reading (see paragraphs [0009] to [0011], [0025] and [0026] with table 1 and figures 1 and 4). Likewise, washing liquid does not flow when a reading is made (see paragraph [0008]), this happens after the injection of water is stopped. At other times the pump operates, so that a different non-zero-flow condition prevails (see for example paragraph [0008]).

- 6.3.3 However, in the Board's view D18 does not disclose a shutoff means for shutting off the washing liquid and preventing washing liquid passing into or through the first sprayer as claimed, that is means additional to the pump and its control means.

It is true D18 discloses (see paragraph [0023], first sentence and paragraph [0025], second sentence) to read the turbidity sensor after injection (of washing liquid) from the nozzle 4 is stopped. However, the Board is not convinced that this necessarily implies that a shutoff means causes this stopping. Stopping the pump 5, for example, would have the same effect.

- 6.3.4 The Board is also not convinced by the appellant-opponents' argument that the distributing valve disclosed in D18 (mentioned only in the third from last sentence of paragraph [0017]) is a shutoff means as claimed.

Whilst it is true the valve is between the pump and the nozzles 4 (the pump supplies water to the nozzles via the valve), the only function attributable to it is that of distributing (washing liquid). This could merely mean that the valve correctly apportions the

liquid between the nozzles (more to one less to the other for example), without shutting off either. Nor is it more than mere conjecture that the valve operates in a certain way when or immediately prior to making a turbidity reading. Paragraphs [0023] and [0025] explain how and when turbidity measurements are made but neither mention the distribution valve.

- 6.3.5 Moreover, the Board does not agree with the appellant-opponents argument that because paragraphs ([0023] and [0025]) refer to a "nozzle" in the singular, one nozzle is operating whilst the other is not, so a shutoff means is in operation.

In this regard, the only explanation D18 offers as to how to achieve a settled washing liquid condition when measuring turbidity is to stop the pump beforehand (see paragraphs [0009] and [0013]). These paragraphs, just as with paragraphs [0023] and [0025], define the spray nozzle in the singular, even though there is only one pump supplying both nozzles (cf. figure 1, pump 5 supplies washing liquid to nozzles 4). Therefore, defining nozzle in the singular in paragraphs [0023] and [0025] can have no particular significance, let alone lead to the conclusion that a shutoff means is present.

- 6.3.6 From all of the above, the Board concludes that D18 does not directly and unambiguously disclose a shutoff means as claimed. Therefore, irrespective of its admissibility into the proceedings, D18 does not take away novelty of claim 1.

- 6.4 Main request, claim 1, novelty with respect to D9 and D10

- 6.4.1 In its communication of 16 August 2019, the Board expressed the provisional opinion that neither D9 nor D10 were prejudicial to the novelty of claim 1.
- 6.4.2 Relevant parts of the communication in this regard are reproduced below (whereby the claim feature referred to as F9.1 is the last bullet point - shut off means for shutting off... and that referred to as F12 is the last claim feature iii - at least during each reading...):

"5.3 Novelty with respect to D9 (WO96/21391)

D9 is similar to D2 in that it discloses a dishwasher with a turbidity sensor. Turbidity measurements (see paragraph bridging pages 10 and 11) are made when fluid in the [sensing] tube is quiescent or still, for example in a pause between a fill step and a circulating step, thus when the pump is off.

It may need to be discussed whether or not the means for turning off the pump amounts to the dishwasher having a shutoff means as in claim feature F9.1 (cf. impugned decision, point 2.4.1, last paragraph).

Moreover, in the Board's view, D9 is silent as to whether or not the turbidity measurement is made after the pump is shut down for a lapse of time, let alone for a lapse of time between 15 seconds and 4 minutes (cf. feature F12 [feature iii in claim 1]). Therefore, at least for this reason, D9 appears not to take away novelty of claim 1.

5.4 Novelty with respect to D10

In the Board's view D10 does not take away novelty of claim 1. It relates to a dishwasher which controls

operating states based on turbidity sensing (see for example abstract and figure). Turbidity is measured when the pump operates at a first speed (see paragraph [0017] with figure 2, step 104). However, whether water flows through a first sprayer during this measurement, let alone whether this happens for a lapse time prior to measurement is not said. Therefore, a shutoff means as claimed (cf. features F9.1 and F12), appears not to be disclosed and D10 does not take away novelty of claim 1".

6.4.3 The appellant-opponents have not commented on these parts of the communication, therefore the Board confirms its opinion on these matters. With respect to D9, the Board also notes that, since now the Board has answered the question posed in its communication as to whether a means for turning off the pump constitutes a shutoff means (the Board finds that it is not), D9 discloses neither the shutoff means feature nor the lapse of time feature of claim 1.

6.4.4 From the above, neither D9 nor D10 are prejudicial to novelty of claim 1.

6.5 Main request, claim 1, novelty with respect to D1

6.5.1 D1 is cited under Article 54(3) EPC.

D1 discloses a method of operating a dishwasher (see claims). The dishwasher has a turbidity sensor 19 located in the washing compartment (see paragraph [0038] and figure 1). The dishwasher also has a shutoff means 17 (see paragraph [0036]). D1 discloses to make turbidity measurements using the same operating parameters of the pumping system (see claim 9). However, D1 is silent as to whether this means that the

shutoff means prevents liquid flowing to the first sprayer during a time lapse of between 15 seconds and 4 minutes immediately preceding the reading performed by the sensor as required by the last feature (iii) of claim 1. Therefore the subject matter of claim 1 is new with respect to D1.

6.6 From all of the above, none of the cited documents takes away novelty of claim 1.

7. Main request, claim 1, inventive step, starting from D18 in combination with the skilled person's general knowledge

7.1 Following the discussion of novelty, the subject matter of claim 1 differs from D18 by its last feature, iii : shutoff means for shutting off the washing liquid and preventing the washing liquid from passing through the first sprayer.

7.2 The patent (see published patent specification, paragraphs [0042] and [0052]) explains that the shutoff means operates during and immediately prior to reading by the sensor to ensure conditions are stable when the reading is performed. However, D18 achieves the same effect by turning off the pump (see paragraphs [0009], [0013], [0023] and [0025]). In other words D18 achieves the same stability effect.

However, providing a shutoff means in addition to the pump as claimed allows more flexibility of operation. For example, the pump can operate whilst the shutoff means prevents washing liquid flowing to a sprayer. Therefore, the objective technical problem can be formulated as providing a method of operating a

dishwasher, as disclosed in D18, with increased operational flexibility.

7.2.1 In the Board's view, starting from D18, the skilled person would not arrive at the last claim feature (shutoff means), in an obvious manner.

7.3 As already explained, the distribution valve mentioned in D18 (paragraph [0017], third from last sentence) is not a shutoff means as claimed. Nor, indeed, is it a shutoff means of unspecified function: it could merely apportion washing fluid to the sprayers 4 (for example more to one and less to the other), without being able to shut off flow to either. Therefore, to arrive at the subject matter of claim 1, the skilled person must do more than merely make use of a shutoff means that is already present in D18 as the appellant-opponents have argued.

Rather, the skilled person must (as a matter of obviousness) provide a shutoff means for preventing washing liquid passing through a first sprayer. Furthermore, they must have it operate in the way claimed (before and during performing a sensor reading cf. claim 1, feature iii).

7.4 The obviousness of the claimed subject matter hinges on the premise that providing such a shutoff means and operating it as claimed belongs to the skilled person's general knowledge. The appellant-opponents have provided no evidence to support this. Whilst the person skilled in the art of dishwashers undoubtedly knows, in general, of means for shutting off flow in a duct (for example a valve), no evidence has been offered to show that the skilled person knows of such a means arranged for preventing washing liquid (from a pump) from

passing through a dishwasher sprayer, let alone operating it as claimed.

Rather, the appellant-opponents have only cited post published patent documents (D1 and D2), which cannot evidence what belonged to the skilled person's general knowledge at the relevant date.

- 7.5 Therefore, the combination of D18 with the skilled person's general knowledge would not lead to the subject matter of claim 1.
8. Main request, claim 1, inventive step starting from D9 combined with the skilled person's general knowledge or D18, starting from D10 with D18 or from D1 with D18
 - 8.1 Neither D9, D10 nor D18 disclose a shutoff means as claimed. Nor, in the Board's opinion, is such a means known from the skilled person's general knowledge. Therefore, the Board holds that none of the combinations (however obvious) starting from D9 or D10 would lead the skilled person to a method of operating a dishwasher having a shutoff means as claimed.
 - 8.2 With regard to the combination of D1 with D18, since D1 is cited under Article 54(3) EPC, it cannot be considered when assessing inventive step, Article 56 EPC, last sentence. Therefore this argument is moot.
 - 8.3 The Board concludes that, irrespective of the admissibility of document D18, the subject matter of claim 1 involves an inventive step, Article 56 EPC.
9. No further objections have been raised or are apparent against the claims according to the main request.

- 9.1 Furthermore, the Board considers that the description filed at the oral proceedings before the opposition division is in conformity with the claims of the present main request, nor is this in dispute.
- 9.2 Therefore, the Board finds that the patent and the invention to which it relates according to the main request now meets the requirements of the EPC. It concludes that the patent can be maintained in this amended form in accordance with Article 101(3) (a) EPC.
- 9.3 Since the main request is allowable, there is no need for the Board to consider the remaining auxiliary requests.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The case is remitted to the opposition division with the order to maintain the patent in amended form as follows:

Claims:

- Claims 1-10 according to the main request, filed with letter of 10 December 2019,

Description:

- Description columns 5 and 6 of the published patent specification, description columns 1 to 4 and 7 to 10 as filed during the oral proceedings on 20 June 2016 before the opposition division,

Drawings:

- Drawing sheet 1/1 of the published patent specification.

The Registrar:

The Chairman:



G. Magouliotis

W. Van der Eijk

Decision electronically authenticated