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**Datasheet for the decision
of 17 June 2016**

Case Number: T 0140/13 - 3.2.07

Application Number: 06800684.0

Publication Number: 1789202

IPC: B05B12/08, B05B12/14, B05B9/04

Language of the proceedings: EN

Title of invention:
PAINT CIRCULATING SYSTEM AND METHOD

Patent Proprietor:
Finishing Brands Holdings Inc.

Opponent:
Dürr Systems GmbH

Headword:

Relevant legal provisions:
EPC Art. 83, 123(2), 54(2), 56
RPBA Art. 12(4), 13(1), 13(3), 11

Keyword:

Sufficiency of disclosure - main request (no) - auxiliary
request (yes)

Novelty - (yes)

Inventive step - (yes)

Fundamental procedural defect - (no)

Late-filed evidence - admitted (no)

Remittal to the department of first instance - (no)

Decisions cited:

Catchword:



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Case Number: T 0140/13 - 3.2.07

D E C I S I O N
of Technical Board of Appeal 3.2.07
of 17 June 2016

Appellant: Dürr Systems GmbH
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Decision under appeal: **Decision of the Opposition Division of the European Patent Office posted on 19 November 2012 rejecting the opposition filed against European patent No. 1789202 pursuant to Article 101(2) EPC.**

Composition of the Board:

Chairman G. Patton
Members: V. Bevilacqua
 E. Kossonakou

Summary of Facts and Submissions

I. The appellant (opponent) filed notice of appeal against the decision to reject the opposition against European patent No. 1 789 202, requesting that the decision under appeal be set aside and European patent No. 1 789 202 revoked.

II. The following written prior-art documents relevant for the present decision were cited in the statement of grounds of appeal:

E2: EP 0 347 607 B1;

E3: US-A-3 720 373.

The following documents relating to the allegation of a public prior use ("NedCar") were also cited therein:

E1-1: technical drawing B7033037000101;

E1-1a: enlarged view of the table contained in E1-1;

E1-1b: enlarged view of the list of components of E1-1;

E1-1c: enlarged view of a portion of E1-1;

E1-1d: enlarged view of a portion of E1-1;

E1-1e: enlarged view of a portion of E1-1;

E1-2: minutes of a meeting between NedCar and Inlac representatives held on 31 March 2000;

E1-3: confirmation of change Nr D-018 dated 16 February 2000

E1-4: printout of www.nedcar.nl/content/view/79/120/lang,en/;

E1-5: extract from "NedCar, annual report 2004";

E1-6: minutes of a meeting between NedCar and Inlac representatives held on 18 May 2000;

E1-7: minutes of a meeting between NedCar and Inlac representatives held on 16 June 2000;

E1-8: photographs;

- E1-9: fax dated 31 August 1999 with offer "Neue Decklacklinie" (referred to as E1-10 by the appellant);
- E1-9a: fax dated 5 October 1999 with information on costs (referred to as E1-9 by the appellant);
- E1-10: affidavit from Jürgen Sommer dated 25 February 2013;
- E1-11: first affidavit from Uwe Mallwitz dated 26 February 2013;
- E1-12: first affidavit from Armin Hoderlein dated 26 February 2012.

The following documents relating to the allegation of a further public prior use ("REHAU") were also referred to in the statement of grounds of appeal:

- E18: email exchange between Mr Klopp and Mr Eckardt;
- E19: TÜV SÜD, preliminary report by Ms Kutschke dated 7 September 2005.

The authors of the above-mentioned affidavits (Mr Sommer, Mr Mallwitz and Mr Hoderlein) as well as Mr Eckardt and Ms Kutschke were offered as witnesses for the alleged public prior uses.

- III. The respondent requested that the appeal be dismissed, and subsidiarily that the patent be maintained on the basis of the claims of any of the first to fifth auxiliary requests filed with the reply to the grounds of appeal dated 7 August 2013.
- IV. In the annex to the summons to oral proceedings the board presented its preliminary opinion on the claims of the respondent's requests, stating *inter alia* that:

- the arguments of the appellant supporting its objections concerning insufficiency of disclosure, as well as those supporting its objections concerning unallowable amendments, were not convincing;
- no substantial procedural violation or such fundamental deficiencies in the evaluation of the alleged prior use NedCar appeared to require remittal of the case;
- admission into the proceedings of the alleged prior use REHAU would be subject to Article 12(4) RPBA;
- neither of the alleged prior uses NedCar and REHAU, irrespective of whether they were proven to have taken place as alleged, appeared to anticipate the claimed subject-matter;
- hearing the proposed witnesses or inspecting the premises of the alleged prior uses NedCar and REHAU did not appear necessary;
- the request for reimbursement of the appeal fee did not appear allowable and would thus probably be refused; and
- the subject-matter of the claims of the patent as granted appeared to be novel and inventive over the available written prior art.

V. With letter of 4 May 2016 the appellant submitted the following two new affidavits, both related to the alleged prior use NedCar:

E1-13: second affidavit from Mr Hoderlein dated
20 April 2016;

E1-14: second affidavit from Mr Mallwitz dated
22 April 2016.

With the same letter the appellant also submitted the following new documents:

- E24: extract from "Fachwörterbuch Kraftfahrzeugtechnik", undated;
- E25: extract from "Automatic Transmissions & Transaxles", 2016;
- E26: extract from "Basics of Coating Technology", 2003;
- E27: US-A-3 147 922;
- E28: US-A-3 958 724;
- E29: DE 199 47 254 A1.

The appellant submitted new arguments and/or objections on patentability (lack of novelty and lack of inventive step) based on these new documents, more particularly on E27, E28 and E29.

- VI. With its letter dated 6 May 2016 the respondent submitted a sixth auxiliary request.

With its letter dated 10 June 2016 the respondent requested that the late-filed documents E1-13, E1-14 and E24 to E29 not be admitted into the proceedings or else that the oral proceedings be adjourned and the resulting costs be apportioned.

- VII. Oral proceedings before the board were held on 16 June 2016, during which the respondent filed a new first auxiliary request.

- VIII. The parties' requests were established to be as follows:

The appellant requested that the decision under appeal be set aside and European patent No. 1 789 202 revoked; that the new first auxiliary request filed during the oral proceedings before the board not be admitted into the proceedings; that the alleged prior use REHAU be

admitted into the proceedings and that witnesses be heard in respect of the alleged prior uses NedCar and REHAU and the respective premises be inspected by the Board; as an auxiliary request, that the case be remitted to the opposition division; and finally that documents E1-13, E1-14 and E24 to E29 be admitted into the proceedings and the appeal fee reimbursed.

The respondent requested that the appeal be dismissed, and subsidiarily that the patent be maintained on the basis of the new first auxiliary request filed during the oral proceedings before the board (hereafter referred to as "new first auxiliary request") or on the basis of the first to fifth auxiliary requests filed with the reply to the grounds of appeal dated 7 August 2013 or of the sixth auxiliary request filed with the letter of 6 May 2016; further that the late-filed documents E1-13, E1-14 and E24 to E29 not be admitted into the proceedings or, should any of documents E24 to E29 be admitted, that the oral proceedings be adjourned.

At the conclusion of the debate, the respondent withdrew its request for apportionment of costs and agreed that oral proceedings should not be adjourned in case E1-13 and E1-14 were admitted.

The present decision was announced at the end of oral proceedings.

IX. The text of **claim 1** of both the **main** and the new **first auxiliary request** reads as follows:

"A paint circulating system (20) suitable for providing paint to applicators (16) in a product finishing facility, the system comprising:
a variable speed pump (22) for pumping paint around the system and responsive to a control signal to maintain a predetermined pressure;
a back-pressure regulator, BPR (25) configured to be activated so as to respond to variations in the paint pressure to substantially eliminate pressure fluctuations and maintain a substantially constant pressure of paint upstream of the BPR;
a controller (26) controlling the BPR (25) and the pump (22) to operate in one of (D1) a flow mode, wherein the BPR (25) is de-activated so as to allow paint to flow without being responsive to pressure fluctuations and a required flow rate of paint around the system is maintained, and (D2) a pressure mode, wherein the BPR (25) is activated and the pump (22) maintains the predetermined pressure of paint between the pump (22) and the BPR (25)."

The text of **claim 5** of the **main request** reads as follows:

"The paint circulating system of claim 2 wherein the BPR (25) comprises a diaphragm that is acted upon by a spring on one side, and by paint pressure on the other side."

The text of claim 9 of the main request and of claim 8 of the first auxiliary request reads as follows:

"The paint circulating system of claim 1 wherein the pump (22) is a variable capacity pump."

The text of **claim 21** of the **main request** and of **claim 20** of the **new first auxiliary request** reads as follows:

"A method of operating a paint circulating system to provide paint to applicators (16) in a product finishing facility, the system comprising:
a variable-speed pump (22) for pumping paint around the system and responsive to a control signal to maintain a predetermined pressure;
a back-pressure regulator, BPR (25), configured to be activated so as to respond to variations in the paint pressure to substantially eliminate pressure fluctuations and maintain a substantially constant pressure of paint upstream of the BPR (25); and a controller (26) controlling the BPR (25) and the pump (22), the method comprising:
switching operation of the pump (22) and the BPR (25) between a flow mode, wherein the BPR is de-activated so as to allow paint to flow without being responsive to pressure fluctuations and a required flow rate of paint around the system is maintained, and a pressure mode, wherein the BPR is activated and the pump maintains the predetermined pressure of paint between the pump (22) and the BPR (25)."

- X. In view of the present decision the wording of the claims of the further auxiliary requests filed by the respondent with its written submissions is irrelevant.

- XI. Insofar as relevant to the present decision the appellant argued substantially as follows:

The passages relating to back-pressure regulators (indicated as "BPR" in the rest of the present decision) in the description of the patent in suit only explain how such devices are built according to the prior art, without giving the information needed to build a device according to the claims of the patent in suit which, in the de-activated state, should not react to pressure fluctuations (referred to as "smart BPR").

A BPR based on a diaphragm acted upon by paint pressure on one side and activated by fluid pressure on the other side would always be responsive - i.e. also in the de-activated state - to pressure fluctuations, because of the elasticity of the membrane.

Such a device therefore does not correspond to the claimed "smart BPR".

Without being able to implement such a "smart BPR" which can be activated and de-activated as claimed, the skilled person is unable to set up a paint circulation system according to claim 1 of all requests, i.e. to carry out the invention.

The document referred to in paragraph [22] of the patent in suit cannot be used to prove sufficiency of disclosure, because a copy of this document was not available to the EPO on the date of filing of the application underlying the patent in suit.

A European patent application having the same effective date as the patent in suit and claiming such a "smart BPR" has been granted: this proves the insufficiency of the disclosure to such an extent that it is now the respondent who bears the burden of proof.

Lack of disclosure is particularly evident for claim 5 of the main request, according to which there is a spring acting on a diaphragm on one side, and paint pressure on the other side, because the patent in suit does not disclose any means for preventing the spring from acting on the membrane in the de-activated state.

By removing claim 5, as done in the new first auxiliary request, a completely different interpretation of the subject-matter of claim 1 arises. This raises new issues which increase complexity and could not be dealt with without adjournment of the oral proceedings.

The new first auxiliary request should therefore not be admitted at such a late stage into the proceedings under Articles 13(1) and (3) RPBA.

The new first auxiliary request should also not be admitted under Article 12(4) RPBA because it could have been filed during opposition proceedings.

The subject-matter of dependent claims 9 of the main request and 8 of the new first auxiliary request is also not sufficiently disclosed, because, in the eyes of a skilled person and as shown by documents E24 and E25, there is no "variable speed pump" which is also a "variable capacity pump" and vice versa.

In addition, as the originally filed documents only disclose a variable speed pump and a variable capacity pump as two distinct embodiments, the subject-matter of these claims extends beyond the content of the application as filed.

All the facts relating to the allegations of prior use (NedCar and REHAU) which make it possible to determine

their respective dates, what has been used, and the relevant circumstances have been put forward in an adequate way, enabling the board to examine their substantive merit.

The witnesses should be heard in this context because it is clear, from the submitted affidavits, for what assertions of fact the witnesses are offered.

The REHAU prior use should be admitted into the proceedings and taken into consideration, as it involves subject-matter which is *prima facie* relevant and prejudicial to the novelty of claim 1 of the main and of the new first auxiliary request.

The subject-matter made available by the NedCar prior use, as shown in E1-1, is novelty-destroying for all independent claims of the main and of the new first auxiliary request.

In particular, the two pressure-controlled valves indicated by reference 9 and shown in E1-1d interact with elements 35, 36, 12 and 18 to form a smart BPR.

E1-1 also discloses a variable speed reciprocating pump capable of operating in either a high flow capacity mode or a low flow capacity mode.

The information made available through the NedCar prior use, in combination with the teaching of document E3, is detrimental to the inventive step of the subject-matter of claim 1 of the main and the new first auxiliary request, because the BPR of E3 can be manually de-activated.

The subject-matter of claim 1 of the main and of the new first auxiliary request also lacks inventive step over a combination of the teachings of E3, disclosing a smart BPR which can be manually de-activated, with those of E2, on the use of automatic controls in this technical field.

The content of documents E26-E29 is *prima facie* relevant for discussing both the novelty and the inventive step of claim 1 of the main and the new first auxiliary request. These documents should therefore be admitted into the proceedings and taken into account.

The opposition division committed a substantial procedural violation by significantly deviating from the Guidelines for Examination when assessing sufficiency of disclosure.

The opposition division also refused to hear the offered witnesses, thereby disregarding the fact that the witnesses could have corroborated all the alleged facts, whose relevance was sufficient, once confirmed, to justify the revocation of the patent in suit.

This amounts to a second substantial procedural violation.

The appeal fee should hence be reimbursed.

XII. Insofar as relevant to the present decision the respondent argued substantially as follows:

The "smart BPR" is sufficiently disclosed by its functional definition in paragraphs [20] and [22] of the patent in suit, also present in the originally filed text, according to which it is a BPR (a well-

known valve device having a diaphragm and a spring) capable of being activated and de-activated by fluid pressure.

Such a device is not responsive to pressure fluctuation when de-activated, because a skilled person would always foresee that the deformation of the diaphragm in such a device has to be limited to achieve reliable results. The skilled person would know how to select the elasticity of the diaphragm so that it abuts also at low pressure, i.e. in flow mode.

For these reasons a skilled person would also foresee, when carrying out the embodiment of claim 5 of the main request, mechanisms or devices for displacing and disengaging the spring acting on the diaphragm when the BPR is de-activated.

The subject-matter of the independent claims of the main and of the new first auxiliary request is sufficiently disclosed in the document referred to in paragraph [22] of the patent in suit.

A copy of this document was available to the EPO on the date of filing of the application underlying the patent in suit because the EPO could have obtained it.

This document was also available to the public at the publication date of the patent in suit.

The appellant's argument that the grant of a patent to a similar smart BPR causes a shift of the burden of proof onto the respondent is irrelevant to the present proceedings, because the subject-matter of the patent in suit does not correspond to the subject-matter of this other granted patent.

The subject-matter of claim 9 of the main request and of claim 8 of the new first auxiliary request can be carried out by a skilled person and does not extend beyond the content of the original disclosure because a variable speed pump is a particular type of variable capacity pump.

The appellant did not overcome the objections raised in the appealed decision in relation to the circumstances and the public availability of the alleged NedCar and REHAU prior uses. Consequently the chain of proof is still incomplete in respect of both prior uses.

The appellant's request for the board to investigate these matters by hearing witnesses or inspecting premises should be regarded as an attempt to shift the burden of proof away from the appellant, and should not be allowed.

Affidavits E1-13 and E1-14 should not be admitted because they were filed too late in the proceedings.

The alleged prior use NedCar, even if confirmed in all its alleged details, would still not be novelty-destroying for the subject-matter of claim 1 of the main request.

E1-1 does not disclose a variable speed pump responsive to a control signal to maintain the predetermined pressure of paint between the pump and the BPR, but merely a reciprocating pump capable of operating in either a high flow capacity mode or a low flow capacity mode.

E1-1 (see E1-1d) also does not disclose a "smart BPR", because the group of components shown in the upper portion of E1-1d (9, 12, 17, 18, 35, 36), taken as a unitary block, does not have a de-activated condition in which the paint flows freely and the unitary block is not responsive to pressure fluctuations, because one of the two valves (9) can always close the respective conduit in response to a pressure drop.

The subject-matter made available by this alleged prior use is, in combination with the teachings of document E3, not detrimental to the inventive step of claim 1 of the main request, because E3 does not disclose a smart BPR as claimed either.

The appellant failed to address the grounds mentioned in the appealed decision for not admitting the alleged prior use REHAU, which should therefore also not be admitted into the appeal proceedings.

Documents E26-E29 should not be admitted into the proceedings, due to their late filing and lack of relevance.

Inventive step over the combination of the teachings of documents E2 and E3 for the subject-matter of the independent claims of the main request and of the new first auxiliary request should be acknowledged, because none of these documents teach the use of a controller to activate and de-activate the BPR.

Reasons for the Decision

1. *Main request*

1.1 Claims 1 and 21

1.1.1 According to the description of the patent in suit (see paragraph [20], see also PCT publication WO-A-2007/032827, from page 5, line 19), a BPR is a device known in the prior art which includes a diaphragm, one side of which is acted upon by a coiled spring, the other being acted upon by paint pressure. In this known device the pressure of paint urges the diaphragm against the spring force to open up a passage for said paint.

Paragraph [10] (corresponding to the passage comprised between page 2, line 25, and page 3, line 3, of the original description) contains the information that the BPR according to the invention of the patent in suit (smart BPR) comprises, in one embodiment, a diaphragm that is acted upon by fluid pressure on one side and by paint pressure on the other side.

A skilled reader understands from this that this device is activated/de-activated by shutting on/off, by suitable means, the control pressure acting on the diaphragm.

The description therefore provides to a skilled person at least one way of building this type of BPR.

1.1.2 The appellant acknowledges that such a BPR, based on a diaphragm acted upon by paint pressure on one side and activated by fluid pressure on the other side, is sufficiently disclosed, but argues that it does not

correspond to the "smart BPR" claimed in claims 1 and 21 of the main request.

This is because in this embodiment the diaphragm would inevitably deform, due to its elasticity, once the pressure of the activating fluid is removed (in the de-activated state), thereby being responsive to paint pressure even in the flow mode, i.e. at low paint pressure.

1.1.3 The board disagrees.

An embodiment in which the diaphragm can be deformed indefinitely by paint pressure would not be taken into consideration by a skilled person reading and trying to perform the invention of claims 1 and 21 of the main request, as it would be technically unreliable.

In a diaphragm-based valve-type device, a skilled person would always envisage surfaces limiting the deformation of the membrane.

Activating a BPR provided with these limiting surfaces by fluid pressure, as taught in the description of the patent in suit, means urging the diaphragm against the paint pressure until a first limiting surface is reached, thereby reliably closing the paint passage.

De-activating it implies removing the fluid pressure, such that the diaphragm moves back against a second limiting surface, thereby reliably opening the paint passage.

This smart BPR built by a skilled person using his knowledge and the information given in the patent in suit is clearly not responsive to paint pressure

variations in the de-activated state, because this second limiting surface is there to block deformation of the diaphragm, in order to keep the paint passage reliably open, as taught in the patent in suit, without being responsive to pressure fluctuations.

As argued by the respondent, the skilled person will unambiguously know how to select the diaphragm so that its elasticity enables it to come and abut against the second limiting surface when de-activated.

1.1.4 For these reasons the board concludes that the subject-matter of claims 1 and 21 of the main request is sufficiently disclosed in the description of the patent in suit.

1.1.5 As a consequence, it is irrelevant in this respect to discuss in the present decision whether the content of the UK patent application referred to in paragraph [0022] of the contested patent forms part of the original disclosure or not.

1.2 Claim 5

The board considers that the subject-matter of claim 5 of the main request is not sufficiently disclosed in the description of the patent in suit.

This is because, as discussed above, as soon as the diaphragm can be deformed by paint pressure in the de-activated state, the device becomes responsive to pressure fluctuations in that state.

This is clearly what happens when, as claimed in claim 5, the diaphragm is acted upon by a spring on one side and by paint pressure on the other side.

In such a situation it is not possible to envisage how to stop the diaphragm and the spring (and therefore the BPR as a whole) from being responsive to pressure fluctuations. It is a matter of fact that a spring is permanently active.

The respondent argues that a skilled person would, in this embodiment, inevitably envisage mechanisms or devices for removing the spring to act on the diaphragm when the BPR is de-activated, and would in this way be able to carry out the invention. Such a mechanism could be, for example, an adjustable screwed connection to be manually activated or automated.

The board disagrees: even if springs acting on a diaphragm and being adjustable with a screw connection are known in this technical field (see for example figure 2 and elements 94 and 96 in figure 5 of E3), no means have been identified as being available to a skilled person to de-activate such a spring when de-activating the fluid pressure controlling the "smart BPR". A complete specific mechanism needs to be designed which is neither described in the application as originally filed, nor part of the skilled person's common general knowledge at the effective date of the contested patent.

At the oral proceedings, the respondent deliberately chose not to further discuss this issue on the basis of the content of the UK patent application referred to in paragraph [0022] of the contested patent. In order to overcome the objection against claim 5, it instead decided to file the new first auxiliary request discussed below, in which claim 5 has been deleted.

1.3 Conclusion on the main request

The main request cannot be allowed because convincing arguments were presented by the appellant supporting insufficiency of disclosure with respect to the embodiment in accordance with claim 5.

2. *New first auxiliary request*

2.1 Admissibility of the request

2.1.1 As mentioned above, the only difference between the claims according to the main request and those according to the new first auxiliary request resides in claim 5 being deleted, and the subsequent claims of the auxiliary request renumbered accordingly.

2.1.2 According to the appellant this amendment results in a completely different, more restrictive interpretation of the subject-matter of claim 1, because the presence of a spring is now excluded. This raises new issues which increase the complexity of the proceedings and could not be dealt with without adjournment of the oral proceedings. This request should therefore not be admitted into the proceedings under Articles 13(1) and (3) RPBA.

The board disagrees. The deletion of claim 5 does not render a new interpretation of the remaining claims necessary, firstly because their text has not been changed, and secondly because claim 5 only represents an alternative of the BPR as appearing clearly from paragraph [0010], lines 48-49.

The deletion of a dependent claim representing a mere alternative actually reduces the complexity of the

subject-matter to be discussed. As all the claims of the new first auxiliary request were already present in the main request, this amendment does not raise new issues which cannot be reasonably expected to be dealt with without adjournment of oral proceedings (Articles 13(1), (3) RPBA).

- 2.1.3 According to the appellant the first auxiliary request should also not be admitted under Article 12(4) RPBA because it could have been filed during the opposition proceedings.

The board disagrees, because there is no trace in the documents relating to opposition proceedings of any objection concerning insufficiency of disclosure directed against claim 5 of the main request. In fact, such an objection was formulated for the first time with the statement of grounds of appeal. As a consequence, it is not possible to conclude that the respondent could have filed this request during the first-instance proceedings.

It follows that the new first auxiliary request is admitted into the proceedings.

- 2.2 Admissibility of documents E24 and E25

The respondent requested that documents E24 and E25 not be admitted into the proceedings.

The board notes that these documents have been submitted in support of arguments and objections concerning insufficiency of disclosure and added subject-matter already contained in the statement of grounds of appeal and in reaction to the doubts raised by the board in its preliminary opinion in relation to

claim 9 of the main request, corresponding to claim 8 of the new first auxiliary request ("variable capacity pump"). As acknowledged by all parties, these documents merely reflect the skilled person's common general knowledge.

As a consequence, there appears to be no reason for the appellant to have filed these documents earlier in the opposition and/or appeal proceedings. Further, there is no new issue arising from these documents and therefore, as admitted by the respondent during the oral proceedings, adjournment of the oral proceedings is not necessary for dealing with them.

E24 and E25 are therefore admitted into the proceedings (Articles 12(4), 13(1) and (3) RPBA).

2.3 Sufficiency of disclosure

2.3.1 Claim 1

Claim 1 of the new first auxiliary request corresponds to claim 1 of the main request, and is therefore sufficiently disclosed for the reasons already given under point 1.1 above.

2.3.2 Claim 8

According to this claim, the pump referred to in claim 1 as a variable speed pump is also a variable capacity pump.

Documents E24 and E25 have been submitted by the appellant to prove that a variable capacity pump is a pump with a variable geometry (or a variable

displacement pump), which is therefore able to change the quantity of fluid pumped by a pumping cycle.

The appellant argues that the skilled person sees a clear distinction between a "variable speed pump" and a "variable capacity pump" and therefore regards the subject-matter of this claim as technically impossible to implement.

The board disagrees, because the term "variable capacity pump" has a broader meaning than and encompasses the term "variable displacement pump", and E24 and E25 reflect only one possible interpretation thereof.

The capacity of a pump may be defined as the quantity of fluid pumped by each pumping cycle, as explained in E24 and E25, but also, in this technical field, as the quantity pumped during a given time unit (see for example E1-9, page 1, where reference is made to a pump having a capacity of 70 l/min.).

Based on that definition of capacity, a variable speed pump is necessarily also a variable capacity pump, because by changing its operation speed it also can change the quantity of fluid processed in a given unit of time by increasing the number of pumping cycles in this period.

As a consequence, the requirements of claims 1 and 8 are not mutually exclusive. The skilled person is therefore able to carry out the invention claimed in claim 8 of the new first auxiliary request.

Hence, it is not necessary to discuss in the present decision whether the content of the UK patent

application referred to in paragraph [0022] of the contested patent forms part of the original disclosure or not.

2.4 Extension of subject-matter

Similar reasoning applies to the objection of added subject-matter raised by the appellant against this claim.

According to the appellant the application as originally filed clearly identifies a variable speed pump and a variable capacity pump as two completely distinct alternative embodiments.

This argument is based on page 3, lines 16-18, of the originally filed description (see PCT Publication WO-A-2007/032827), containing the following statement: "the pump may be a variable speed **or** variable capacity pump..." (see also original claims 12 and 13).

The board disagrees. Knowing, for the reasons discussed above (see point 2.3 above), that a "variable speed pump" is also a "variable capacity pump", the skilled person would understand from this passage of the original description that not only variable speed pumps, being a particular type of variable capacity pump, but also generic variable capacity pumps in general are envisaged.

As a consequence, the subject-matter of claim 8 of the new first auxiliary request does not extend beyond the content of the original disclosure (Articles 100(c), 123(2) EPC).

2.5 Late-filed documents E26-E29

Documents E26-E29 were filed by the appellant with its letter dated 4 May 2016, i.e. after the summons was sent to the parties, so that their admission is subject to the board's discretion pursuant to Articles 13(1) and (3) RPBA.

- 2.5.1 The appellant argues that the content of documents E26-E29 is prima facie relevant for discussing both the novelty and the inventive step of claims 1 and 20 of the new first auxiliary request.

These documents should therefore be admitted into the proceedings and taken into account by the board.

- 2.5.2 It is established case law of the boards of appeal that late-filed evidence may exceptionally be admitted at the appeal stage (see Case Law of the Boards of Appeal, 7th edition 2013, section IV.C.1.4). However, it is a primary requirement of inter partes proceedings, because of their judicial character, that all parties involved have the guarantee of a fair and equitable procedure and that facts and evidence are brought to the attention of the opposing parties and of the board, providing sufficient time for their consideration.

In the present case the appellant, when asked by the board about the reasons for the late filing of E26-E29, argued that these documents had been submitted in reaction to the board's preliminary opinion, as they disclose the features identified therein as the differences between the method and device made available through the alleged prior use NedCar and the subject-matter of the independent claims.

This argument cannot in the eyes of the board justify such a late filing. The presence of differences between the subject-matter made available by the alleged prior use NedCar and the content of the independent claims of the new first auxiliary request, corresponding to those granted and to those of the main request, has already been discussed by the respondent both in opposition proceedings and in the reply to the statement of grounds of appeal.

This issue was therefore not raised in the preliminary opinion of the board for the first time, and the board did not invite the appellant to provide new evidence in this respect.

The above also applies to E28 which, according to the appellant, was communicated to the respondent by the USPTO in examination proceedings for a parallel patent application.

Considering further the fact that the appellant refers to these documents to formulate completely new novelty and inventive step objections at such a late stage of the proceedings, compelling the board either to decide on critical issues for the first time or to remit the case to the opposition division, the board, in exercising its discretion according to Article 114(2) EPC, decides not to admit documents E26 to E29 into the proceedings (Articles 13(1), (3) RPBA).

2.6 Inventive step attack based on the written prior art only: E3+E2

The appellant raised a lack of inventive step objection based on the combination of the teachings of E3 and E2, arguing that E3 discloses a smart BPR which can be manually de-activated, and E2 teaches how to automatically activate and de-activate it.

The board disagrees.

E3 discloses a paint circulating system (see figure 1) suitable for providing paint to applicators (29a, 29b, 29c) in a product finishing facility, the system comprising:

a variable speed pump (10) for pumping paint around the system;

a back-pressure regulator, BPR (23, see from column 3, lines 33-37) configured to be activated to substantially eliminate pressure fluctuations and maintain a substantially constant pressure of paint upstream of the BPR (column 3, lines 1-37).

E3 fails to disclose that the pump is responsive to a control signal to maintain a predetermined pressure.

E3 also fails to disclose the smart BPR because there is no controller controlling the BPR and the pump to operate in one of a flow mode, wherein the BPR is de-activated so as to allow paint to flow without being responsive to pressure fluctuations and a required flow rate of paint around the system is maintained, and a pressure mode, wherein the BPR is activated and the pump maintains the predetermined pressure of paint between the pump and the BPR.

In the BPR of E3, a spring (94) is used which cannot be de-activated in the flow mode, i.e. when no painting is performed, as also discussed under point 1.2 above with respect to sufficiency of disclosure for the embodiment of claim 5 of the main request. Hence, it remains responsive to pressure fluctuations also in this mode.

Starting from these differences the following problem can be formulated:

how to modify the paint circulating system of E3 so as to ensure the required flow rate and pressure in operation while reducing energy consumption and wear (contested patent, paragraphs [0003], [0004], [0005], [0011] and [0013]).

E2 discloses the use of a controller to control the operation of a pump during painting and teaches that paint pressure and paint speed should be strictly controlled and be kept to an optimal minimum value during the painting pauses (flow mode) and should be available at the required value at the start of and during painting (see column 3, line 25, to column 4, line 20).

E2 does not provide any teaching on how to regulate back pressure.

In the paint circulation system shown in figure 1 there are a plurality of pressure regulators (Drückminderer, 11, 15A, 15B, 15C, 15D, see column 2, lines 45-54, and column 4, lines 42-48), whose purpose, however, is to keep the outlet pressure low and constant and which therefore do not act as back-pressure regulators.

Using the language of claim 1 this document teaches that in order to avoid paint degradation:

-the pump should be responsive to a control signal to maintain a predetermined pressure;

-a controller (sensors 16, computer 17) should control the pump to operate in one of a flow mode, where a required flow rate of paint around the system is maintained, and a pressure mode, where a predetermined pressure of paint is maintained.

The appellant argues that the skilled person would, by applying this teaching to E3, necessarily also have to somehow de-activate the BPR of E3 in order to keep paint flowing at low pressure.

The board disagrees: E2 teaches a complex system to keep pressure and flow under control.

The required direct and straightforward application of this teaching to the paint circulation system of E3 would imply completely replacing its relatively simple pressure control system (i.e. the BPR) with the one of E2 (i.e. without BPR).

This combination of the teachings of E3 with E2 would therefore not result in the subject-matter of claims 1 or 20 of the new first auxiliary request.

As a consequence, the subject-matter of the claims of the new first auxiliary request is regarded as inventive over the combination discussed above of the teachings of documents E2 and E3.

2.7 Alleged prior use REHAU

2.7.1 Relevance

The drawing (see page 16 of the statement of grounds of appeal) relating to this prior use merely shows two containers (container 02, Ringleitung 02) connected by a pipe carrying a pump (7P4), and a cooling system (Kühlung) connected to the second container.

No information concerning the technical features of the system can be derived from E19.

The emails (E18) deal with a paint circulation system having a flow mode and a production mode (Lackierdruck) and disclose an element, called "Rücklaufregler", which could be either activated (angesteuert) or not.

This "Rücklaufregler" keeps a constant pressure and thereby regulates back flow. There is, however, no indication that this element responds to variations in the paint pressure to substantially eliminate pressure fluctuations and maintain a substantially constant upstream pressure.

As a consequence, this "Rücklaufregler" could also keep a constant downstream pressure (i.e. work as a pressure-reducing device).

Using the language of claim 1, the prior use REHAU relates to:

a paint circulating system (there is a Rücklauf-Station RL) suitable for providing paint to applicators in a product finishing facility ("Lackierdruck", see the first email), the system comprising:

a pump (Farbpumpe) for pumping paint around the system to maintain a predetermined pressure;
a pressure regulator (called Rücklaufregler), configured to be activated (angesteuert) to operate in one of a flow mode, wherein the regulator is deactivated so as to allow paint to flow without being responsive to pressure fluctuations (is completely open, see the first email), and a pressure mode, wherein the regulator is activated and the pump maintains a predetermined pressure of paint.

A controller controlling the BPR and the pump may also be considered, in the opinion of the board, to be implicitly disclosed.

The following features of claims 1 and 21 of the main request (claims 1 and 20 of the new first auxiliary request) cannot be derived from the submitted documents (figure, E18, E19) and the related submissions:

- that the pump is a variable speed pump responsive to a control signal;
- that the regulator is a back-pressure regulator (BPR), configured so as to respond to variations in the paint pressure to substantially eliminate pressure fluctuations and maintain a substantially constant upstream pressure of paint during production, or a required flow rate of paint around the system during flow mode.

The above analysis shows that the alleged prior use REHAU, even if confirmed in all its details, would not be novelty-destroying.

2.7.2 Admissibility

This prior use was not admitted in the opposition proceedings, so that its admission into the proceedings is subject to Article 12(4) RPBA. In view of the analysis given under point 2.7.1 above, the board considers that the opposition division applied the correct criterion of *prima facie* relevance in a reasonable manner when exercising its discretionary power and, hence, cannot find fault in the opposition division's findings (see impugned decision, points 11.6.2 and 11.6.3).

The above was the board's preliminary opinion provided in the annex to the summons to oral proceedings, which has not been further argued by the appellant, neither in its subsequent written submissions nor at the oral proceedings.

Hence, the alleged prior use REHAU is not admitted into the proceedings (Article 12(4) RPBA).

2.8 Admissibility of E1-13 and E1-14

According to the respondent, affidavits E1-13 and E1-14 should not be admitted into the proceedings since they were filed after the summons to oral proceedings had been sent.

The board notes that these two new affidavits were submitted as a reaction to its preliminary opinion, in particular in order to confirm the absence of a secrecy agreement, that the pump is a variable speed piston pump and that drawing E1-1 corresponds to the system which has been installed at NedCar.

No new issues requiring adjournment of oral proceedings arise from these non-complex declarations alone, as they relate only to facts which were already alleged by the appellant with its statement of grounds of appeal. Moreover, their admission allows the board to better assess the relevance of the technical content of the alleged prior use NedCar, thereby contributing to procedural efficiency.

The board therefore decides to admit these declarations into the proceedings.

2.9 Alleged prior use NedCar - relevance to novelty

2.9.1 The appellant argues that the subject-matter made available through this prior use is novelty-destroying for claims 1 and 20 of the new first auxiliary request.

2.9.2 The board disagrees.

E1-1 shows a paint circulating system (and a method for operating such a paint circulating system) suitable for providing paint to applicators (shown in the upper portion of the figure) in a product finishing facility (called WAD-Line or Topcoat line, see again the upper portion of E1-1), the system comprising:

a pump (5, more clearly visible in E1-1c), able to run at a high capacity or a low capacity (see last line in E1-1a) for pumping paint around the system and responsive to a control signal (KS 005 and KS 006, acting on the pressurised oil circuit activating the pump) to maintain a predetermined pressure (called "hoher Druck" oder "niedriger Druck" in the last row of E1-1a).

E1-1 defines the pump as a piston pump (Kolbenpumpe) which is able to increase its pressure and capacity.

According to E1-2, E1-3, E1-6 and E1-7 (see in particular E1-7, point 2.4), this pump is a variable speed pump. This is confirmed by E1-13 and E1-14 (points 7, 8 and 9).

- 2.9.3 The appellant argued that both elements 9 as shown in E1-1d could be considered as a "smart BPR", because they are able to be de-activated so as to allow paint to flow without being responsive to pressure fluctuations.

The board disagrees for the following reasons:

The symbol used for the elements 9, called "Rücklaufregler", represents a valve having an entry and an exit, which opens only when a predetermined pressure level is reached at its entry.

These valves set a limit for (and therefore regulate) the pressure in the paint line, but none of them corresponds to the claimed smart BPR for the following reasons:

- (a) The valve 9 on the right side does not act as a smart BPR, because the skilled person understands from the table (E1-1a) that the valve (9) on the right side opens only when a relatively high pressure is reached (called "hoher Druck") and is therefore configured to be activated so as to respond to variations in the paint pressure to substantially eliminate pressure fluctuations and maintain a substantially constant (high) pressure

of paint upstream of the valve in the production mode.

During flow mode this valve is not de-activated, but is actively closed, because of the relatively low pressure generated by the pump in the flow mode.

In other words the valve is not de-activated because it is in principle still able to respond (responsive) to sufficiently high pressure fluctuations.

As a consequence, the valve (9) on the right side of E1-1d cannot be considered as a BPR which is de-activated during flow mode, so as to allow paint to flow without being responsive to pressure fluctuations and a required flow rate of paint around the system is maintained.

- (b) The valve 9 on the left side of E1-1d also does not act as a "smart BPR".

This is because (see E1-1a) this valve already opens when a lower pressure is reached (called "niedriger Druck").

Said valve (9) follows after the valve 35, and is therefore configured to be activated (by opening of valve 35) so as to respond to variations in the paint pressure to substantially eliminate pressure fluctuations and maintain a substantially constant pressure of paint upstream of the valve during flow mode.

During the production mode this valve is indeed de-activated, because its connection to the paint line is closed by valve 35 via signal 004 and the valve therefore cannot respond to paint pressure fluctuations.

This valve is therefore activated during the flow mode, but not during the production mode, and due to its construction never allows paint to flow without being responsive to pressure fluctuations.

- 2.9.4 The appellant also argued that elements 9 right, 9 left, 12, 18, 35 and 36 constitute, together, such a BPR as claimed.

The board disagrees.

This group of components operates in a flow mode and in a production mode, but as there is a valve which responds to pressure changes in both branches of the circuit (see points (a) and (b) above), there is no mode of operation during which it is de-activated in the sense that it allows paint to flow without being responsive to pressure fluctuations.

The appellant argued that during flow mode this device is de-activated, because the flow pressure is sufficient to keep the left valve 9 constantly in an open position.

The board disagrees: being open in response to a (sufficiently) high input pressure cannot be equated to "inactivity", but it is rather what this valve, if properly working and "activated", is designed to do.

2.9.5 Conclusion on novelty

As this alleged prior use does not disclose a BPR functioning as claimed, even if proven as alleged with all the adduced evidence, it cannot anticipate the subject-matter of the independent claims of the new first auxiliary request. A hearing of witnesses or an inspection of the premises could not alter this evaluation, so that neither measure appears appropriate or indeed necessary.

2.10 Alleged prior use NedCar - relevance to inventive step

2.10.1 The appellant submits that no inventive step could be acknowledged for these claims over the combination of the teachings of the alleged prior use NedCar with that of document E3, because the BPR of E3 can be manually de-activated by unscrewing the leftmost screw shown in figure 2. A skilled person would therefore only need to extract, from the alleged prior use NedCar, the teaching that de-activation has to be performed by a controller controlling the BPR (by acting on the screw) and the pump to arrive at the subject-matter of the independent claims of the first auxiliary request.

2.10.2 The board disagrees.

As already discussed above under point 2.6, E3 discloses a paint circulating system with a traditional, spring-activated BPR (see figure 2 of this document) and without a controller controlling the BPR and the pump to operate in a flow mode and a pressure mode.

Based on these differences the same problem already discussed in relation to the combination of the

teachings of E3 and E2 can be formulated, namely: "how to modify the paint circulating system of E3 so as to ensure the required flow rate and pressure in operation while reducing energy consumption and wear".

As already discussed (see point 2.9.2), the alleged prior use NedCar involves the use of a controller to control the operation of a pump during painting so that paint pressure is at a minimum value during the painting pauses to avoid degradation (flow mode) and at a suitable high value at the start of painting.

However, inventive step should be acknowledged because by applying this teaching to the system and the method disclosed in E3 the skilled person would not arrive at the same combination of features of the independent claims of the new first auxiliary request.

This is because, like E3, the alleged prior use NedCar does not involve a BPR which, when de-activated, allows paint to flow without being responsive to pressure fluctuations.

Therefore this prior use, even if proven as alleged, is not relevant enough, when combined with the teachings of E3, to deprive the subject-matter of the independent claims of the new first auxiliary request of inventive step. In the light of this conclusion, neither a hearing of witnesses nor an inspection of premises appear likely to alter this assessment.

2.11 Witnesses, inspection of premises

It follows that neither a hearing of witnesses nor an inspection of premises with respect to the alleged prior use NedCar is necessary for the purposes of the present decision.

3. Reimbursement of the appeal fee

3.1 According to the appellant, a substantial procedural violation occurred because the opposition division examined sufficiency of disclosure (impugned decision, point 12.7) in a way significantly deviating from the Guidelines with respect to a reference document cited in paragraph [0022] of the contested patent.

A further substantial procedural violation was argued in respect of the way the opposition division dealt with the alleged prior use NedCar, especially because the proposed witnesses were not heard.

The board disagrees on both issues.

3.1.1 For the decision on sufficiency of disclosure either for the main request or for the new first auxiliary request, the reference document is irrelevant. As discussed above (see points 1 and 2.3), the board considers that the patent in suit without the reference document contains enough information for the skilled person to build a BPR as claimed and therefore to carry out the invention according to the independent claims of the main request and the claims of the new first auxiliary request, similarly to the impugned decision, point 12.6. It follows that the opposition division cannot have "significantly deviated from what is

prescribed in the Guidelines for Examination" as argued by the appellant.

Claim 5, regarded as insufficiently disclosed in the present decision, is not part of the impugned decision.

3.1.2 In respect of the alleged prior use NedCar, the appellant argues that the witnesses could have corroborated the alleged facts relating to this prior use, whose relevance was enough, if confirmed, to justify the revocation of the patent in suit, thereby committing a substantial procedural violation justifying reimbursement of the appeal fee. However, as discussed above, certain relevant technical features of claims 1 and 21 of the main request or claims 1 and 20 of the new first auxiliary request are not present in the alleged NedCar prior-used system and method as established in the submitted documents. Therefore the subject-matter made available through this alleged prior use is not detrimental to either the novelty or the inventive step of the subject-matter claimed in the new first auxiliary request.

It follows that, even if some issues related to this alleged prior use were not addressed and the witnesses were not heard by the opposition division, such an omission does not amount to a substantial procedural violation, nor can a fundamental deficiency be established.

In order to assess the commission of a substantial procedural violation or the existence of a fundamental deficiency, the question to be answered is whether the outcome would have been different if the opposition division had dealt with the seemingly omitted issues.

This question is to be answered in the negative in the present case, because of the lack of relevance of the subject-matter made available by this prior use.

As a consequence, the board sees no justification for reimbursement of the appeal fee and also no need to remit the case to the opposition division under Article 11 RPBA.

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 on the basis of the following documents:
 - claims 1 to 20 of the first auxiliary request filed during the oral proceedings before the board,
 - description: page 2 filed during the oral proceedings before the board and pages 3 to 6, lines 1 to 11, of the patent specification and
 - figures 1 to 3 of the patent specification.

The Registrar:

The Chairman:



B. Atienza Vivancos

G. Patton

Decision electronically authenticated