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**Datasheet for the decision
of 21 May 2026**

Case Number: T 1261/24 - 3.2.05

Application Number: 19747974.4

Publication Number: 3672777

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B29C49/42, B29C49/64, B32B1/02,
G05B6/02, G05B19/414

Language of the proceedings: EN

Title of invention:
Energy efficient blow molder control

Patent Proprietor:
AGR INTERNATIONAL, INC.

Opponent:
Krones AG

Relevant legal provisions:
EPC Art. 100(a), 54, 56

Keyword:
Grounds for opposition - lack of patentability (yes)
Novelty - main request (yes)
Inventive step - main request (no) - auxiliary request 2 (yes)

Decisions cited:

G 0001/24



Beschwerdekammern

Boards of Appeal

Chambres de recours

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Case Number: T 1261/24 - 3.2.05

D E C I S I O N
of Technical Board of Appeal 3.2.05
of 21 May 2026

Appellant:

(Opponent)

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(Patent Proprietor)

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Decision under appeal:

**Decision of the Opposition Division of the
European Patent Office posted/electronically
transmitted on 7 August 2024 rejecting the
opposition filed against European patent No.
3672777 pursuant to Article 101(2) EPC.**

Composition of the Board:

Chairman

P. Lanz

Members:

C. Kujat

M. Blasi

Summary of Facts and Submissions

- I. The appeal lies from the decision of the opposition division rejecting the opposition against the European Patent No. 3 672 777 (the patent) pursuant to Article 101 (2) EPC.
- II. In the decision under appeal, the opposition division came to the conclusion that the grounds for opposition under Article 100(a) EPC in conjunction with Articles 54 and 56 EPC did not prejudice the maintenance of the patent as granted. The opposition division *inter alia* relied on the following piece of evidence:
- D1 DE 10 2013 103 543 A1
- III. In preparation for oral proceedings, appointed in view of corresponding requests of the parties, the board issued a communication pursuant to Article 15(1) RPBA dated 14 April 2026 setting out its provisional opinion on the relevant issues. Oral proceedings were duly held in the presence of both parties on 21 May 2026. During the oral proceedings before the board, auxiliary request 1 was withdrawn.
- IV. The appellant (opponent) requested that the impugned decision be set aside and that the patent be revoked in its entirety. The appellant also requested non-admittance of auxiliary request 9 into the appeal proceedings.
- V. The respondent (patent proprietor) requested, as main request, that the appeal be dismissed, or, alternatively, that the decision under appeal be set

aside and the patent be maintained as amended on the basis of the claims of one of auxiliary requests 2 to 9 filed with the reply to the statement of grounds of appeal.

VI. *Claim versions*

The independent apparatus claim 1 of the main request (patent as granted) reads as follows (the feature references used by the board are indicated in square brackets):

"[1.0] A blow molder system (100) comprising:
[1.1] a blow molder (6) that produces containers (66) from preforms, wherein the blow molder (6) comprises: a plurality of molds; and
[1.2] a blow molder sensor (62) for sensing an operating condition of the blow molder (6);
[1.3] a container inspection system (103) for inspecting the containers (66) produced by the blow molder; and
[1.4] a blow molder controller (102) that is in communication with the blow molder (6) and the container inspection system (103), characterized in that the blow molder controller (120) [sic] is configured to:
[1.5] receive outputs from the blow molder sensor (62) and the container inspection system (103);
[1.6] determine a set of blow molder input parameters for the blow molder (6) that drives the containers (66) generated by the blow molder (6) toward a desired container characteristic,
[1.7] wherein the set of blow molder input parameters are determined based on:
[1.7.1a] the outputs from the container inspection system (103)

[1.7.1b] and blow molder sensor (62); and
[1.7.2] operating cost data for the blow molder (6),
wherein the operating cost data comprises energy costs
for operating the blow molder (6); and
[1.8] output the set of blow molder input parameters to
the blow molder (6) for implementation by the blow
molder (6)."

The independent method claim 14 of the main request
reads as follows:

"A method comprising:
producing, by a blow molder (6), blow-molded containers
(66) from preforms, wherein the blow molder (6)
comprises a plurality of molds; and
during production of the blow-molded containers (66),
sensing, by a blow molder sensor (62), an operating
condition of the blow molder (6);
inspecting, by a container inspection system (103), the
blow-molded containers (66) produced by the blow molder
(6); and characterized by
determining, by a blow molder controller (102) that is
in communication with the blow molder (6) and the
container inspection system (103), a set of blow molder
input parameters for the blow molder (6) that drives
the containers (66) generated by the blow molder toward
a desired container characteristic,
wherein the set of blow molder input parameters are
determined based on:
outputs from the container inspection system (103)
and blow molder sensor (62); and
operating cost data for the blow molder (6), wherein
the operating cost data comprises energy costs for
operating the blow molder (6); and

outputting, by the blow molder controller (102), the set of blow molder input parameters to the blow molder (102) for implementation by the blow molder (6)."

Independent claims 1 and 13 of auxiliary request 2 differ from the respective claims 1 and 14 of the main request by the following amendment (addition underlined by the board):

"operating cost data for the blow molder (6), wherein the operating cost data comprises energy costs for operating the blow molder (6) and incremental costs to make changes to the operating parameters of the blow molder (6), wherein the incremental costs are based, at least in part, on the energy costs for operating the blow molder (6)"

VII. The parties' relevant arguments can be summarised as follows.

Main request - Novelty - Article 100(a) in conjunction with Article 54 EPC

Appellant (opponent)

The subject-matter of claims 1 and 14 of the main request is not novel over the disclosure of document D1. With regard to feature 1.7.1b, paragraph [0065] of that document discloses sensors for determining power consumption (bridging paragraph between pages 5 and 6 of the statement of grounds of appeal: "*als auch Sensoren für Leistungsmessungen beziehen*"). With regard to feature 1.7.2, monetary costs of energy are not mentioned in document D1. However, the term energy costs does not only relate to monetary costs of energy, but also to energy consumption. According to

established jurisprudence, the description may not be consulted for reading an implicit restrictive feature into a broad claim. Neither claim 1 nor claim 14 of the main request restrict energy costs to monetary costs. Expenses of any kind are considered costs in the English language, such as time costs or environmental costs. Depending on the context, the term may refer to energy consumption. Energy consumption is not a technically nonsensical construction of the term energy costs, so the skilled person will consider this meaning. Paragraph [0021] of the patent also refers to costs in a broader sense than just monetary costs. Considering the broad interpretation of the term, paragraph [0065] of document D1 must be understood in the sense that energy costs are considered in the control. Otherwise, the operation mode with an optimal energy consumption could not be determined. This argumentation also applies to independent method claim 14.

Respondent (patent proprietor)

The subject-matter of claims 1 and 14 of the main request is novel over the disclosure of document D1. Feature 1.3 is not disclosed because paragraph [0065] of that document does not specify the subject of the determination of quality, and therefore does not disclose that the quality of containers is determined by measurements of wall thickness or weight distribution. Feature 1.4 is not disclosed in paragraph [0054] of document D1, because controller 40 merely controls supply of gas into the preforms, which is but one aspect of the blow moulding process. Feature 1.5 is not disclosed in document D1 due to the absence of a blow moulder controller. In addition to that, the document does not disclose that such a controller

receives output from a blow moulder sensor and a container inspection system. Feature 1.6 is not disclosed in document D1, because the feature does not encompass that the driving is made in a single step. This would ignore the directional component "toward" in that feature. The skilled person understands this feature as a continuous process involving a certain direction and a duration of time. Paragraph [0065] of document D1 does not disclose a continuous process, because the determination described therein must be understood as a single step. Features 1.7 and 1.7.1a are not disclosed in document D1 because of the absence of blow moulder input parameters and a container inspection system. Feature 1.7.1b is not disclosed in document D1, because optimised energy consumption is determined manually, and measured values are manually translated into settings of the operation mode of the blow moulding machine. The disclosure in paragraph [0065] of document D1 could also be understood as a preset table in which a certain valve setting corresponds to a certain energy consumption. Alternatively, the energy consumption could also simply be measured in order to understand its level, without using it as a parameter for a control operation. Document D1 does not disclose feature 1.7.2, because the term energy costs in that feature must be construed as monetary costs of energy. This is the only way in which the term is ever used in the description, see paragraphs [0076], [0077] or [0083] of the patent. Feature 1.8 is not disclosed in document D1 due to the absence of a blow moulder controller. This argumentation also applies to independent method claim 14.

Main request - Inventive step - Article 100(a) in conjunction with Article 56 EPC

Appellant

The subject-matter of claims 1 and 14 of the main request does not involve an inventive step over a combination of document D1 and the common general knowledge. Feature 1.7.2 is the only distinguishing feature. This feature is not a technical feature. Optimising a system in a cost-efficient way is not automatically a technical problem just because it concerns a technical system. Instead, this concerns purely economic considerations. In accordance with established jurisprudence, the decisive issue therefore is how the non-technical framework is implemented in the claim. The objective technical problem may not be formulated in accordance with paragraph 3.4.3 of the impugned decision as optimising operation of the blow moulding machine. It is doubtful whether feature 1.7.2 solves this problem. Instead, the objective technical problem underlying claim 1 should be regarded as increasing cost efficiency of the blow moulding machine. The skilled person tasked with increasing the cost efficiency of the blow moulder, would have considered energy costs, hence the solution was obvious. Paragraph [0065] of document D1 already discloses that the energy consumption must be reduced as much as possible. By force, the only parameter left to the skilled person are the monetary energy costs. The problem of determining optimised operation points of the blow moulder due to fluctuating energy costs may not be derived from feature 1.7.2. This feature is not restricted to variable energy costs and therefore also comprises fixed or constant energy costs. The feature also does not specify how the energy costs are to be

considered. In particular, the feature does not require current energy costs or regularly updated energy costs. Both is a prerequisite for reacting to fluctuating energy costs. Formulating the objective technical problem as determining optimised operation points is therefore too narrow. If the problem-and-solution approach is applied correctly, the objective technical problem may be regarded as considering the monetary energy costs for allowing a cost-optimised operation of the blow moulder. The respondent has acknowledged that claim 1 also comprises the alternative that energy prices are fixed or stable. The solution according to claims 1 and 14 of the main request is rendered obvious by the common general knowledge.

Respondent

The subject-matter of claims 1 and 14 of the main request involves an inventive step over a combination of document D1 and the common general knowledge. Feature 1.7.2 makes a technical and non-obvious contribution to the solution of the technical problem of providing a blow moulding system with optimised operation. This feature has technical character because it contributes to the technical effect of system control. The blow moulder controller of the patent in suit can determine the parameters to be changed taking into account the time to get to the desired container characteristics and the instantaneous energy costs for making the changes. The energy costs used by the controller are updated, because these values would otherwise not reflect the reality of energy costs and be meaningless numbers. There are no static energy costs, and the invention also opens up the possibility to look at momentary energy costs. The controller according to the patent in suit must be able to process

variable energy costs. Document D1 does not clearly and unambiguously disclose to reduce energy consumption as far as possible. The document is silent on what constitutes an optimal energy consumption. This argumentation also applies to independent method claim 14.

Auxiliary request 2 - Inventive step - Article 56 EPC

Appellant

The subject-matter of claims 1 and 13 of auxiliary request 2 does not involve an inventive step over a combination of document D1 and the common general knowledge. The additional feature in claims 1 or 13 is implicitly disclosed in paragraph [0065] of document D1. In case of fixed energy prices, there is no change with respect to the method disclosed in that paragraph. The additional feature is a result of the implementation of the optimisation described in this paragraph. Changes in one parameter, e.g. a preform that is 1°C warmer, affects energy costs. The optimisation described in paragraph [0071] of the patent can only be carried out by slightly varying the parameters and then comparing the results.

Respondent

The subject-matter of claims 1 and 13 of auxiliary request 2 involves an inventive step over a combination of document D1 and the common general knowledge. The teaching of document D1 is to diminish the energy consumption as much as possible. This does not optimise the operation of the blow moulder, since it does not take account of variations in the unit costs of energy.

Reasons for the Decision

1. *Main request - Novelty - Article 100(a) in conjunction with Article 54 EPC*

The appellant disputes the opposition division's decision finding that the subject-matter of independent claims 1 and 14 of the main request is novel over the disclosure of document D1, see paragraph 2 of the reasons in the impugned decision. This objection does not convince the board for the following reasons:

- 1.1 Document D1 discloses a stretch blow moulding machine for producing plastic bottles from preforms, see paragraph [0001] of the document. In order to reduce the consumption of resources and increase the efficiency (paragraph [0003]: "*Ressourceneffizienz ... zu verbessern*"), various measures relating to the blow air are suggested, e.g. using the pressure inside the blown containers for retracting the stretch rod or for recovery and storage of blow air from the containers for further use in the blow moulding machine (see paragraphs [0016], [0019], [0052] and [0054]). Paragraph [0065] describes a control unit 40 for controlling the valve arrangement, which provides blow air at different pressure levels to the preforms during their transformation into bottles by blow moulding. Paragraph [0065] is understood by the board in the sense that non-depicted sensors are used for controlling the valve arrangement via the control unit 40, see below, so that for a set total output and quality, the operating mode offering optimal energy consumption can be determined. Quality is determined by measuring wall thickness or weight distribution. In addition, the power consumption of the compressor and,

where applicable, the electrical power consumption of the drives (stretch rod, main drive) are measured. The valve arrangement comprises a plurality of air valves, because the reference to a valve arrangement in paragraph [0065] is understood by the board as an arrangement of more than one valve (see the expression "*Ventilschaltung*", which the board translates to valve arrangement).

- 1.2 With regard to feature 1.4, paragraph [0065] of document D1 refers to control unit 40 as "*Steuerung 40*". In German, this term also encompasses embodiments without a feedback loop, which would not be considered controllers by the skilled person. However, the further reference to control in that paragraph implies a feedback loop (see the statement "*ist die Ventilschaltung über die Steuerung 40 auch regelbar*", which the board understands in the sense that the valve arrangement is controlled by control unit 40). The board understands this only in the sense that control unit 40 is capable of performing a closed-loop control of the air valves in the valve arrangement. For such a closed-loop control, control unit 40 must have a feedback loop, and thus, act as a controller. This conclusion is not altered by the respondent's allegation that control unit 40 would merely control supply of gas into the preforms, which would be but one aspect of the blow moulding process. The board construes feature 1.4 in a broad sense, because it is not directed to the only controller of a blow moulding machine or to a controller controlling all functions of the blow moulding machine. As control unit 40 controls an essential part of the blow moulding machine - the valve arrangement for providing air into the preforms - it acts as a blow moulder controller in the broadest sense of feature 1.4.

- 1.3 Concerning feature 1.6, the board concurs with the respondent in that it relates to the capability of the controller to use the determined set of input parameters in a continuous process for gradually arriving at containers with the desired characteristics. However, this is already disclosed in paragraph [0065] of document D1. The board understands the first sentence of that paragraph in the sense that control unit 40 determines input parameters for controlling the valve arrangement of the blow moulding machine (see the statement "*der Betriebsmodus ermittelt werden kann*", which the board understands in the sense that the operation mode can be determined by control unit 40). As these valves are feedback-controlled, see above, this type of control leads to a gradual reaction of the blow moulding machine to changes and deviations in the determined container quality. Due to this gradual reaction, the containers produced by the blow moulding machine of document D1 are gradually driven towards a desired container quality characteristic, i.e. a desired wall thickness and/or weight distribution. The board finds no basis in document D1 to support the respondent's assertion that the determination in paragraph [0065] would occur in a single step.
- 1.4 With regard to features 1.7, 1.7.1a and 1.7.1b, the board gleans from paragraph [0065] of document D1 that the power consumption of the compressor and the electrical power consumption of the drives are measured by sensors. If not physically, these sensors are at least logically assigned to the blow moulding machine. Thereby, their signals become outputs from blow moulder sensors according to feature 1.7.1b. The compressor and the drives significantly affect the overall energy

consumption of a blow moulding machine. For determining the operating mode offering optimal energy consumption according to paragraph [0065], control unit 40 therefore requires the output signals of these power sensors. In the board's view, the qualifier 'optimal' implies that the measured power consumptions are actually used by control unit 40 for determining this operating mode. This is underlined by the consecutive conjunction 'so that' in the statement in paragraph [0065] that the valve arrangement can also be controlled via the control unit 40 so that the operating mode offering optimal energy consumption can be determined. For the board, this conjunction confirms that the operating mode offering optimal energy consumption is the result of the control by control unit 40. The determined operating mode is based on a set quality, i.e. a quality requirement. This requirement is verifiable by control unit 40 by measuring wall thickness or weight distribution. Such measurements imply sensors which inspect the containers and transmit signals to control unit 40. These sensors therefore generate outputs from a container inspection system in the sense of feature 1.7.1a. From all these sensor outputs, control unit 40 generates instructions for setting the air valves of the blow moulding machine. In the board's view, this constitutes input parameters in the sense of feature 1.7. The board is not convinced by the respondent's assertions that the optimal energy consumption in document D1 could be determined manually, e.g. by manually translating the measured power consumptions, wall thickness or weight distribution into settings of the operation mode of the blow moulding machine. While the board concurs with the respondent in that the first sentence of paragraph [0065] also encompasses manual data entry, this only concerns the target values for control unit 40, but not

a manual determination of the optimal energy consumption or the operating mode. In view of the high production rates of a typical blow moulding machine, see paragraph [0025] of the patent, the board is satisfied that the skilled person understands paragraph [0065] only in the sense that the operating mode is determined automatically by control unit 40. The respondent's further argument that paragraph [0065] relate to a preset table in which a certain valve setting corresponds to a certain energy consumption does not convince the board because the expression "regelbar" (i.e. can be controlled) in this paragraph implies an automated feedback-control, see above. By the same token, simply measuring the energy consumption in order to understand its level, as also argued by the respondent, is in conflict with the board's understanding of an optimal energy consumption as the result of an automatic control by control unit 40, see above.

- 1.5 Concerning feature 1.7.2, the appellant argues that expenses of any kind are considered costs in the English language. In the appellant's view, the energy costs therefore also encompass energy consumption, which according to paragraph [0065] of document D1 is considered by control unit 40. The board agrees with the appellant in that costs may indeed refer to non-monetary elements such as time costs or environmental costs. However, in the context of energy costs, the board is not aware of any other meaning than monetary costs of energy. In the absence of any evidence to that effect, the board does not share the appellant's view. This conclusion is not altered by paragraph [0021] of the patent. This paragraph does not mention energy costs, so its explicit wording cannot justify a broad interpretation of the term costs in the context of

energy costs. Also the implicit content of paragraph [0021] does not justify such a broad interpretation. According to the second sentence of that paragraph, the operating cost module - which is executed by the blow moulder controller - receives operating cost data describing the cost of electricity, heat, and/or other energy being consumed by the blow moulder. If the term cost in that sentence had to be construed in accordance with the appellant as consumption, this would lead to the nonsensical statement *"the consumption (i.e. the cost in the appellant's view) of other energy being consumed"*. The board considers this a strong pointer towards a narrow interpretation of the term costs as only relating to monetary costs. In addition to that, the third sentence of that paragraph states that the local electricity, heat and pressurised air costs for the plant are input to the blow moulder controller. The board has no reason to believe that the plant's electricity, heat or pressurised air consumption depends on its geographical location, so the board construes costs also in this sentence as monetary costs. Summarising the above, the statements in paragraph [0021] of the patent do not allow the conclusion that the term costs is meant to include other costs than monetary costs. Therefore, also when the description and drawings are consulted to interpret the claims of the patent when assessing the patentability of an invention under Articles 52 to 57 EPC, as shall always be the case pursuant to the order of decision G 1/24 of the Enlarged Board of Appeal, paragraph [0021] of the patent does not support the appellant's view that the expression energy costs encompasses energy consumption. The appellant admits that document D1 does not disclose monetary energy costs, see the fourth paragraph on page 6 of the statement of grounds of appeal (*"Die D1 spricht in der*

Tat monetäre Energiekosten nicht an.", which the board translates in the sense that document D1 indeed does not mention monetary energy costs). The board agrees and therefore concludes that feature 1.7.2 under the narrow interpretation of energy costs as monetary costs of energy is not disclosed in document D1.

- 1.6 During the oral proceedings before the board the respondent referred to the written submissions with regard to features 1.3, 1.5 and 1.8 of claim 1 of the main request. In its communication, the board was of the preliminary opinion that these features were already disclosed in document D1. The board presented the following preliminary view (see paragraphs 3.5.1, 3.5.3 and 3.5.7 of the communication):

"3.5.1 Concerning feature 1.3, it appears that the respondent's arguments are repetitions of its submissions before the opposition division, see paragraphs 2.3.1 and 2.3.3 of the impugned decision. During the oral proceedings before the board, it might therefore need to be discussed whether these parts of the reply to the statement of grounds of appeal set out the reasons why it is requested that the decision under appeal be upheld, reversed or amended, see Article 12(3) RPBA. If not, the board has discretion not to admit these parts into the appeal proceedings, Article 12(5) RPBA.

That notwithstanding the respondent puts forward that the container inspection system of document D1 does not specify the subject of quality (i.e. quality of the containers), and also does not disclose that quality is determined by measurements of wall thickness or weight distribution. This preliminarily does not convince the board, because the skilled person seems to construe the

terms "Wandstärke" and "Gewichtsverteilung" in paragraph [0065] of document D1 as those of the containers. Further, the term "mittels" in that paragraph seems to establish a direct link between the measurements on the containers and quality ("Qualität wird mittels ... ermittelt"). Furthermore, the skilled person seems to glean from the first sentence in that paragraph that quality, energy consumption and production rate must be monitored by sensors. Otherwise, there would not be any need for inputting quality and production rate into controller 40, and there would not be any basis for concluding that energy consumption is optimal ("optimaler Energieverbrauch") in the operation mode determined by the controller.

The board would like to emphasise that there is no need for a literal disclosure for the skilled person.

3.5.3 Concerning feature 1.5, the respondent alleges that document D1 fails to disclose a container inspection system or measurements made with the sensors, but does not seem to explain why, see the paragraph bridging pages 14 and 15 of the reply to the statement of grounds of appeal. Notwithstanding the respondent's duty to set out the reasons why it is requested that the decision under appeal be upheld, reversed or amended, see above, the board considers these features disclosed in document D1, see paragraph 1.4 above."

"3.5.7 Concerning feature 1.8, the board is inclined to construe the statement "Betriebsmodus ermittelt werden kann" in the first sentence of paragraph [0065] of document D1 in the sense that controller 40 generates and input parameters for the air valves of the moulding

machine, and outputs these parameters to the air valves."

As the respondent refrained from further comment, the Board re-assessed the respondent's written arguments and confirms its provisional opinion that these features are disclosed in document D1.

- 1.7 Summarising the above, the board concludes that document D1 does not disclose feature 1.7.2 of claim 1 of the main request, and thus, its subject-matter is new over the disclosure of document D1, Article 54 EPC. The appellant confirmed that the same arguments as for claim 1 also applied to claim 14 of the main request, and thus, the subject-matter of claim 14 is also new over the disclosure of document D1. The ground for opposition under Article 100(a) and Article 54 EPC therefore does not prejudice the maintenance of the patent as granted.

2. *Main request - Inventive step - Article 100(a) in conjunction with Article 56 EPC*

The appellant disputes the opposition division's decision finding that the subject-matter of independent claims 1 and 14 of the main request involves an inventive step starting from document D1, see paragraph 3 of the impugned decision.

- 2.1 In the above section on novelty, the board came to the conclusion that feature 1.7.2 of claim 1, i.e. *"[the set of blow molder input parameters are determined based on:] operating cost data for the blow molder wherein the operating cost data comprises energy costs for operating the blow molder"*, is the only distinguishing feature over the disclosure of document

D1. The board also concluded that this feature concerns monetary costs of energy.

2.2 The opposition division defined the objective technical problem underlying the distinguishing feature as providing a blow moulding system with optimised operation, see paragraph 3.4 of the impugned decision. This formulation of the objective technical problem is taken into account by the board in the subsequent assessment of inventive step.

2.3 Under the European Patent Convention, a claimed invention must credibly achieve its stated technical effect across essentially the entire scope of the claim in order for an inventive step to be acknowledged. In the current case it was therefore relevant whether the operation of the blow moulder system is improved across essentially the entire scope of independent claims 1 and 14 of the main request, as disputed by the appellant.

2.3.1 Apart from variable or instantaneous energy costs, the broad term energy costs in feature 1.7.2 of claim 1 also encompasses a scenario with fixed or stable energy costs. The respondent considers this irrelevant and argues that there are no static energy costs. In the respondent's view, energy costs which are not updated by the controller, i.e. static or fixed energy costs, do not reflect the reality of energy costs and are meaningless numbers. In the absence of any supporting evidence, the board does not share this view. To the contrary, the board shares the appellant's view that contracts with a fixed price per unit of energy are well known in industry. Such contracts lead to fixed energy costs which are solely determined by the amount of energy used. The board therefore considers this a

realistic scenario for operating the blow moulding machine according to document D1. In this scenario the price, and thus, the cost of a unit of energy is fixed. Thereby, the energy costs become proportional to the energy consumption of the blow moulding machine.

2.3.2 Even though document D1 does not mention the actual energy consumption, operation of that machine inevitably consumes energy and thereby incurs energy costs. The board understands the references to reduced resource consumption, improved resource efficiency or minimised air consumption in paragraphs [0001], [0003] and [0068] of document D1 in the sense that the operating mode offering optimal energy consumption according to the first sentence of paragraph [0065] of this document achieves a minimal energy consumption. In the above scenario with a fixed energy price, such a minimal energy consumption is equivalent to minimal energy costs. The control unit 40 in document D1 determines the blow moulder input parameters also in the operating mode with optimal energy consumption. It therefore determines a set of blow moulder input parameters for this operating mode which achieves minimal energy costs, albeit without taking operating cost data or energy cost data into account for the actual determination.

2.3.3 For a fixed energy price, the result of the determination by control unit 40 in the operating mode according to the first sentence of paragraph [0065] of document D1 does not differ from the result of the determination according to feature 1.7.2 which is based on operating cost data comprising energy cost data. As the two results cannot be distinguished from each other, the operation of the blow moulding system is not optimised with respect to what is already achieved in

document D1 in a situation with a fixed energy price. Thus, the objective technical problem (of providing a blow moulding system with optimised operation) is not solved for this embodiment in the scenario of fixed energy costs caused by a fixed energy price. In accordance with established jurisprudence, see Case Law of the Boards of Appeal of the European Patent Office, 11th edition 2025, I.D.4.4.1 and I.D.4.5, in such a situation the objective technical problem must be reformulated, in particular in less ambitious terms as providing an alternative.

- 2.4 Concerning the solution of the reformulated objective technical problem of providing an alternative, the board already concluded that claim 1 of the main request encompasses a scenario with a fixed energy price, see above. In this scenario also the costs of a unit of energy are fixed, and the energy costs are proportional to the energy consumption of the blow moulding machine. Because of this proportionality, the board considers the energy costs and the energy consumption in this scenario interchangeable alternatives. Determining the blow moulder input parameters based on the energy consumption, as in paragraph [0065] of document D1, or determining these parameters based on operating cost data comprising energy costs for operating the blow moulder as in feature 1.7.2 of claim 1 therefore relates to available alternatives amongst which the skilled person would have chosen depending on the circumstances. Accordingly, the skilled person would have chosen any of these alternatives, hence also the claimed alternative was obvious to the skilled person.

- 2.5 Summarising the above, the board concludes that the subject-matter of granted claim 1 is obvious starting

from the disclosure of document D1 in view of the common general knowledge. The ground for opposition under Article 100(a) and Article 56 EPC therefore prejudices the maintenance of the patent as granted.

3. *Auxiliary request 2 - Inventive step - Article 56 EPC*

The appellant submits that the subject-matter of independent claims 1 and 13 of auxiliary request 2 does not involve an inventive step starting from document D1.

- 3.1 Independent claims 1 and 13 of auxiliary request 2 differ from the respective claims 1 and 14 of the main request in that the operating cost data also comprise incremental costs to make changes to the operating parameters of the blow moulder, and that these incremental costs are based, at least in part, on the energy costs for operating the blow moulder.
- 3.2 The appellant considers these features a result of the implementation of the optimisation described in paragraph [0065] of document D1 if the energy price, and thus, the energy costs are fixed. In the appellant's view, the incremental costs incurred by increasing the preform temperature affect energy costs. This is because paragraph [0071] of the patent confirms that the optimisation can only be carried out by slightly varying the parameters and then comparing the results. By incrementally varying the power consumption of the compressor and the electrical power consumption of the drives in document D1, the incremental costs are necessarily also considered.
- 3.3 This line of argument does not convince the board. The opposition division derived from paragraph [0050] of

document D1 that the skilled person would have used the output of pressure sensors as input to the blow moulder controller, see paragraph 3.2.2 of the impugned decision. The board therefore understands the expression 'non-depicted sensors' in paragraph [0065] of document D1 as a reference to these pressure sensors. As their output is used by control unit 40 for performing a closed-loop control of the air valves in the valve arrangement, see paragraph [0065], the skilled person would have implemented the teaching in this paragraph of document D1 by means of a control algorithm which varies the opening times of the air valves based on outputs of the pressure sensors. This control algorithm does not require incremental variations of the power consumption of the compressor or the electrical power consumption of the drives. Therefore, and contrary to the appellant's arguments, control unit 40 in document D1 does not necessarily achieve the operating mode offering optimal energy consumption by incremental variations of the compressor and the electric drive. The appellant confirmed that the same arguments as for claim 1 also apply to independent claim 13 of auxiliary request 2.

3.4 Summarising the above, the board is not convinced by the appellant's arguments that the subject-matter of claims 1 and 13 of auxiliary request 2 is obvious in view of paragraph [0065] of document D1. Rather, the board concludes that the subject-matter of these claims involves an inventive step within the meaning of Article 56 EPC.

4. For these reasons, the board finds that
- the subject-matter of claims 1 and 14 as granted is new over document D1, but does not involve an inventive step starting from document D1, so that Article 100(a)

EPC in conjunction with Article 56 EPC prejudices the maintenance of the patent as granted,

- the subject-matter of independent claims 1 and 13 of auxiliary request 2 meets the requirements of Articles 54 and 56 EPC.

5. The description was adapted at the oral proceedings before the board, in agreement with the parties.

The patent as amended in the form of auxiliary request 2 meets the requirements of the EPC.

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 as amended with the following documents:
 - claims 1 to 14 of auxiliary request 2 filed with the reply to the statement of grounds of appeal
 - description:
 - paragraphs [0001] to [0079], [0081] to [0092] of the patent specification
 - paragraph [0080] as filed during the oral proceedings before the board
 - drawings: figures 1 to 15 of the patent specification

The Registrar:

The Chairman:



N. Schneider

P. Lanz

Decision electronically authenticated