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Datasheet for the decision of 26 February 2026

Case Number: T 1020/24 - 3.2.03

Application Number: 09794740.2

Publication Number: 2304329

IPC: F24F13/06, F24F13/10, F24F13/068, F24F11/74

Language of the proceedings: EN

Title of invention:
PLENUM BOX

Patent Proprietor:
Lindab AB

Opponent:
TROX SE

Headword:

Relevant legal provisions:
EPC Art. 54, 56, 123(2), 123(3)
RPBA 2020 Art. 13(2)

Keyword:
Novelty - auxiliary request (yes)
Inventive step - auxiliary request (yes)
Amendments - extension beyond the content of the application as filed (yes) - broadening of claim (no)
Amendment after summons - exceptional circumstances (yes) - taken into account (yes)

Decisions cited:
G 0002/88, G 0001/24

Catchword:

Europäisches Patentamt
European Patent Office
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Beschwerdekammern

Boards of Appeal

Chambres de recours

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Case Number: T 1020/24 - 3.2.03

D E C I S I O N
of Technical Board of Appeal 3.2.03
of 26 February 2026

Appellant: (Opponent)	TROX SE Heinrich-Trox-Platz 1 47506 Neukirchen-Vluyn (DE)
Representative:	Dr. Stark & Partner Patentanwälte mbB Moerser Straße 140 47803 Krefeld (DE)
Respondent: (Patent Proprietor)	Lindab AB 269 82 Bastad (SE)
Representative:	Zacco Sweden AB P.O. Box 5581 Löjtnantsgatan 21 114 85 Stockholm (SE)
Decision under appeal:	**Interlocutory decision of the Opposition Division of the European Patent Office posted on 4 June 2024 concerning maintenance of the European Patent No. 2304329 in amended form.**

Composition of the Board:

Chairman	C. Herberhold
Members:	R. Baltanás y Jorge
	F. Bostedt

Summary of Facts and Submissions

I. European patent No. 2 304 329 B1 relates to a plenum box.

II. An opposition was filed against the patent based on Article 100(c) EPC and Article 100(a) EPC in conjunction with Article 54 EPC.

III. In its interlocutory decision, the opposition division found that auxiliary request 1 as filed with the submissions of 19 October 2023 met the requirements of the EPC.

This decision was appealed by the opponent (appellant).

IV. In a communication pursuant to Article 15(1) RPBA, the Board indicated its preliminary opinion on the case.

Oral proceedings were held on 26 February 2026.

V. Requests

The appellant requested that the decision under appeal be set aside and that the patent be revoked.

The patent proprietor (respondent) requested that the appeal be dismissed (main request) or, in the alternative, that the patent be maintained in amended form on the basis of one of the auxiliary requests, in the following order: 1A, 2, 2A, 3, 3A, 4, 4A, 5, 5A, 6, 6A, 7, 7A, filed with the reply to the statement of grounds of appeal, and 1B, 2B, 3B, 4B, 5B, 6B, 7B, filed with the letter of 18 December 2026.

VI. Claim 1 of the main request (i.e. the request designated auxiliary request 1 in the opposition proceedings) reads as follows (with feature labelling as adopted by the parties and with amendments compared with the originally filed claim 1 marked in bold).

M1 *A plenum box (1a, 1b) configured for use in a ventilation system (2) with flowing air, said plenum box (1a, 1b)* ~~***comprises***~~ ***comprising***

M2 ~~***a pressure distribution pipe (4) which is disposed in -***~~ *an inlet (3)* ~~***to the plenum box (1a, 1b) and which itself comprises a regulating damper (5),***~~ ***that is configured for an air flow (7) to pass through it***

M3 *and an outlet (6a, 6b)*~~***, whereby the inlet (3) is configured for an airflow (7) to pass through it,***~~*;*

M4 ***- a*** ~~***the***~~ *pressure distribution pipe (4)* ***which is disposed at the inlet (3) and*** *extends* ~~***inside***~~ ***from the inlet into*** *the plenum box (1a, 1b)* ~~***from the inlet (3)***~~ ***and comprises***

M5 ***- a*** ~~***the***~~ *surface* ~~***of the pressure distribution pipe (4)***~~ ***that*** *has perforations (8) which allow the air flow (7) to pass through* ~~***them between the***~~ ***from an*** *inside (9)* ~~***and***~~ ***of the pressure distribution pipe to an*** *outside (10) of the pressure distribution pipe (4),*

M6 ***wherein a*** ~~***the***~~ *total aperture cross-section (12) of the perforations (8) in a first section of the pressure distribution pipe (4) varies relative to* ***a*** ~~***the***~~ *total aperture cross-section (12) of the perforations (8) in a second section of the pressure distribution pipe (4) as viewed in an axial direction (11) through the pressure distribution pipe (4);*

M7 ***a*** ~~***and the***~~ *regulating damper (5)* ***configured to angle an incoming air flow from the ventilation***

system towards the perforations and ~~is~~ *disposed adjustably in the axial direction (11) inside the pressure distribution pipe (4)* ***~~and is configured to angle an incoming air flow from the ventilation system (2) towards the perforations (8)~~***

M8 ***characterized such that when the regulating damper (5) is moved towards the inlet, the total aperture cross-section (12) of the pressure distribution pipe (4) for ingress of air into the plenum box is reduced,***

M9 ***wherein some of the perforations take the form of a first perforation type with a first aperture cross-section and some take the form of a second perforation type with a second aperture cross-section.***

The only amendment to claim 1 of the main request compared with claim 1 as granted was the addition of feature M9, corresponding to granted claim 4 and also to originally filed claim 4.

VII. Claim 1 of each of auxiliary requests 1A, 2, 2A, 3, 3A, 4, 4A, 5, 5A, 6, 6A, 7 and 7A comprises feature M4.

VIII. Claim 1 of auxiliary request **1B** is based on claim 1 of the main request but with features M4 and M5 replaced by features M4a and M5a, which are set out below (with amendments marked in bold). These amendments are present in each of auxiliary requests 1B to 7B ("the B requests").

M4a *– a pressure distribution pipe (4) which is disposed* ***~~at~~ in*** *the inlet (3) and extends from the inlet into the plenum box (1a, 1b) and comprises*

M5a *– a surface that has perforations (8) which allow the air flow (7)* ***from the inlet (3)*** *to pass*

through from an inside (9) of the pressure distribution pipe to an outside (10) of the pressure distribution pipe (4),

IX. Prior art

The following documents were cited both in the grounds of appeal and during the opposition proceedings and are relevant to this decision.

D1: DE 38 20 105 A1

D2: US 6,527,194 B1

D10: Brochure "To build a ship", GF Marine as, "PREPRESS / TRYKK: ALLKOPI 12/93"

D12: Set of technical drawings comprising 22 pages

D15: Emails dated 14 May 2007 and 15 May 2007 and document from Trox Technik dated 15 May 2007 (all in Norwegian)

D16: Emails dated 16 September 2011 and 20 September 2011 (in Norwegian), purchase order dated 16 September 2011 and technical drawings UAT_IC (3 February 1999) and 661150 (29 January 1997)

D17: Affidavit of Mr Sheriff dated 16 September 2023 and technical drawings 661151 (27 January 1997) and 661154 (29 January 1997)

X. The appellant's arguments, where relevant to this decision, can be summarised as follows.

(a) Main request and auxiliary requests 1A to 7A - added subject-matter

Although lines 18 and 19 of the originally filed page 5 (i.e. of the international A1 publication) disclosed

that "[t]*he plenum box (1a) comprises an inlet (3) and an outlet (6a)*", the originally filed claim 1 contradicted this, such that the feature of a plenum box comprising an inlet was not originally disclosed, in particular not without an outlet.

Moreover, the addition of the feature "*a pressure distribution pipe which is disposed* ***at*** *the inlet*", in place of the originally disclosed "**in** the inlet" (see the originally filed claim 1, the figures, and also line 19 on page 5), resulted in an unallowable extension of the subject-matter, as "at" and "in" were different concepts. The possible occurrence of a gap between a pressure distribution pipe arranged within the plenum box and the inlet of the plenum box was irrelevant since this embodiment would also be workable, depending on the size of the gap. Furthermore, a transition piece could be arranged between the inlet and the pressure distribution pipe to avoid this gap. Moreover, the preposition "into" in the expression "extends from the inlet into" in feature M4 simply meant "further into" and did not restrict the meaning of "at the inlet" to "in the inlet".

(b) The "B requests" - admittance and extension of scope of protection

The submission of the B requests (and in particular auxiliary request 1B) after the Board's communication under Article 15(1) RPBA constituted an amendment of the respondent's case. This amendment could not be admitted under Article 13(2) RPBA in the absence of exceptional circumstances. The objection to amending "in" to "at" had been made at the beginning of the opposition proceedings. Thus, the B requests could and should have been submitted at the latest with the

respondent's reply to the statement of grounds of appeal.

Moreover, the amendment of "at" to "in" was not allowable under Article 123(3) EPC since it extended the scope of protection of claim 1.

(c) Auxiliary request 1B - novelty over D2

The embodiment of "air flowing from right to left" in D2 disclosed all of the features of claim 1 of auxiliary request 1B, in particular features M1 (plenum box) and M5 ("[pressure distribution pipe comprising] *a surface that has perforations which allow the air flow to pass through from an inside of the pressure distribution pipe to an outside of the pressure distribution pipe*").

(d) Auxiliary request 1B - inventive step

The subject-matter of claim 1 was obvious when starting from any of D1, D10 or the public prior use of UAT (based on documents D12 and D15 to D17) in combination with common general knowledge or D2. The same conclusion resulted from a combination of D2 with common general knowledge.

The only distinguishing feature of claim 1 over D10 was feature M9 ("*some of the perforations take the form of a first perforation type with a first aperture cross-section and some take the form of a second perforation type with a second aperture cross-section*").

The distinguishing feature M9 also encompassed embodiments that did not solve the technical problem concerning airflow. Indeed, it was questionable whether

the first and second apertures were different at all. Furthermore, the technical effect described in paragraph [0010] of the patent specification did not apply to feature M9, which could thus be considered as having no technical effect and thus not solving any objective technical problem.

Even if the respondent's technical effect were accepted, the objective technical problem would be how to provide an improved adjustment of the airflow. The skilled person would know from their common general knowledge how to solve this problem by implementing feature M9.

If their common general knowledge was insufficient, the skilled person would find in D2 a plenum box according to the definition in claim 1 which solved the problem of improving the flow pattern by providing perforations as defined in the distinguishing feature M9.

The same logic applied to the obviousness of feature M9 when starting from either D1 or the public prior use of UAT, since both comprised a plenum box with the same kind of pressure distribution pipe and adjustable dampener as in D10.

Starting from D2, the skilled person would realise that the second embodiment (airflow from right to left) resulted in a higher pressure loss and worse acoustic properties than the first embodiment (airflow from left to right). The skilled person would consequently change the orientation of the components, thus arriving at the distinguishing features M5 and M7.

XI. The respondent's arguments, where relevant to this decision, can be summarised as follows.

(a) Main request and auxiliary requests 1A to 7A - added subject-matter

Lines 18 and 19 of the originally filed page 5 (i.e. of the international A1 publication) disclosed that "[t]*he plenum box (1a) comprises an inlet (3) and an outlet (6a)*", thus providing explicit support for the feature "plenum box comprising an inlet" (features M1 and M2). Feature M3 still defined the outlet, which - when reading the claim with a mind willing to understand - was clearly comprised by the plenum box.

Concerning the feature "at the inlet", this had to be read as "in the inlet" when the rest of claim 1 was taken into consideration, since feature M4 ("*a pressure distribution pipe which extends from the inlet* ***into*** *the plenum box*") already required this on account of the preposition "into".

Furthermore, the wording "in the inlet" would restrict the scope of protection too narrowly in view of the patent application as a whole, since contact between the pressure distribution pipe and the inlet was not disclosed as being necessary.

(b) The "B requests" - admittance and extension of scope of protection

The appellant initially based its objection of added subject-matter relating to the feature "**at** the inlet" on a hypothetical multi-component embodiment involving a transition piece ("Übergangsstück"), both in the opposition proceedings and when submitting its

statement of grounds of appeal (see page 10, point e)). However, the Board did not adopt this multi-component construction approach in its preliminary opinion when discussing the alleged unallowable addition of subject-matter. Instead, the Board considered other hypothetical embodiments in which the pressure distribution pipe was arranged so as to be directly "flush" with the inlet. The nature of the objection thus changed from the hypothetical complex construction proposed by the appellant, resulting in a different attack which was first raised in the Board's communication under Article 15(1) RPBA. Consequently, the submission of the B requests, in particular auxiliary request 1B, in reply to that communication was an appropriate reaction at the earliest opportunity to a new development in the proceedings.

Furthermore, the amendment was simple and did not impose any additional burden on the appellant or the Board.

The feature "*a pressure distribution pipe which is disposed* ***in*** *the inlet*" was a particular species of the previously defined genus "**at** the inlet". This interpretation was supported by the standard dictionary definition of the word "at" (see, for example, the entry in the Merriam-Webster online dictionary). Thus, the amendment did not extend the scope of protection of claim 1.

(c) Auxiliary request 1B - novelty over D2

For the skilled person, a plenum box was a well-known feature in the field of HVAC systems, used to allow air expansion towards a larger volume in order to compensate for air pressure fluctuations in the system.

Therefore, it was not necessary to define all of its implicit features in the claim or even to describe them in the patent specification, as it was common knowledge that a plenum box required an outer wall defining the construction. D2 merely showed a damper (10) within an HVAC duct (11), in which no volume expansion occurred. Consequently, D2 did not anticipate a plenum box (feature M1).

Concerning feature M5, the "inside" and the "outside" of the damper element (14) (pressure distribution pipe) were clear to the skilled person when looking at Figure 1 of D2 and taking into account the conical form of the pressure distribution pipe. In the embodiment of D2 in which the air flowed from right to left, the air flowed - contrary to feature M5 - from the outside of the pressure distribution pipe ("damper element 14" of D2) towards its (conical) inside.

Furthermore, feature M7 ("*a regulating damper configured to angle an incoming air flow from the ventilation system towards the perforations and disposed adjustably in the axial direction inside the pressure distribution pipe*") was not anticipated by the embodiment in which the air flowed from right to left in the device of Figure 1 of D2 since it was physically impossible for the adjustable damper member (16) ("regulating damper") to angle the air flow towards the perforations (46).

(d) Auxiliary request 1B - inventive step

D10 was not prior art within the meaning of Article 54(2) EPC since it had not been proved that this particular version (labelled "PREPRESS" on page 28) had ever been made public.

In any case, when starting from any of D1, D10 or the public prior use of UAT - all of which disclosed the same type of cylindrical pressure distribution pipe - the skilled person would not arrive in an obvious manner at the distinguishing feature M9 ("*some of the perforations take the form of a first perforation type with a first aperture cross-section and some take the form of a second perforation type with a second aperture cross-section*").

The objective technical problem related to feature M9 was how to ensure an improved control of airflow. The interpretation of the appellant concerning the alleged lack of a technical effect in connection with feature M9 was illogical in view of feature M6 ("*a total aperture cross-section of the perforations in a first section of the pressure distribution pipe varies relative to a total aperture cross-section of the perforations in a second section of the pressure distribution pipe as viewed in an axial direction through the pressure distribution pipe*"). Even if the appellant were right in this respect, the objective technical problem would still apply, since the manufacturer would be able - thanks to feature M9 - to calibrate the aperture section precisely by selecting different types of aperture cross-sections, thus improving controllability.

The allegations of common general knowledge by the appellant were unproven and based on hindsight, and the Zeta-value graph on page 21 of the statement of grounds of appeal should not be admitted pursuant to Article 12(4) RPBA.

The teaching of D2 could not help in this respect, firstly because it did not disclose a plenum box, which already made D2 unsuitable as closest prior art document. Secondly because it related to adjusting the gap (G) between the conical pressure distribution pipe (14) and the corresponding conical dampener (16) to control airflow in a system where the apertures (46) were always open (see column 4, lines 50 to 61). This system thus worked on a different principle to that of D1, D10 and the public prior use of UAT. Therefore, the skilled person would not consider any aspect disclosed in D2 to be directly applicable to the proposed closest prior art.

Moreover, the skilled person understood - based on technical considerations - that the technical effect described in paragraph [0010] of the patent specification also applied when only two types of perforation were provided. The distinguishing feature M9 thus had a technical effect in any case.

Reasons for the Decision

1. Main request and auxiliary requests 1A to 7A - added subject-matter

1.1 Features M1 and M2 ("plenum box comprising an inlet")

The appellant argued in writing that, although lines 18 and 19 of the originally filed page 5 (i.e. of the international A1 publication) disclosed that "[t]*he plenum box (1a) comprises an inlet (3) and an outlet (6a)*", the originally filed claim 1 defined that

the "*plenum box (1a, 1b) comprises a pressure distribution pipe (4) which is disposed in an inlet (3)* ***to*** *the plenum box (1a, 1b)*" (emphasis added), and not that the pressure distribution pipe was disposed in an inlet **of** the plenum box.

This is not persuasive, however, since the feature "plenum box comprising an inlet" has a literal basis - as acknowledged by the appellant - in lines 18 and 19 of the originally filed page 5.

The appellant also argued in writing that the opposition division's interpretation of the granted features M1 to M3 - see point II.1.1 of the contested decision - did not necessarily imply that the inlet was part of the plenum box, since otherwise it would be impossible to explain why the respondent provided in the amended claim 1 a list of components emphasised by means of indents.

This is irrelevant to the discussion about whether or not the feature "plenum box comprising an inlet" was originally disclosed since the basis for such a disclosure must be found in the application as originally filed - where it is actually provided, as explained above - and not in the amended features of claim 1 of the main request. Furthermore, the Board has no doubt that features M1 to M3 define an inlet forming part of the plenum box, given their explicit wording (this being the aspect actually contested by the appellant).

In particular, M3 also defines the outlet as being comprised by the plenum box. When the claim is read with a mind willing to understand, it is clear that M3 (which was part of the granted claim 1 and is thus not

objectionable under Article 84, see G3/14, Headnote) defines **the plenum box** as having an inlet and an outlet, rather than merely a flow "pass[ing] through [the inlet] and the outlet". Therefore, the objection that claim 1 did not comprise the outlet and constituted an unallowable intermediate generalisation is without merit.

1.2 Feature M4 ("pressure distribution pipe disposed **at** the inlet")

1.2.1 The objection to the amendments in feature M4 is persuasive given the more general character of the term "at" compared with that of the originally disclosed term "in".

1.2.2 The respondent argued in writing that the skilled person would understand that the pressure distribution pipe and the inlet could have different dimensions. This would enable the pressure distribution pipe to be slid either over (i.e. "on") or into (i.e. "in") the end of the inlet in order to connect the two elements. According to the respondent, excluding one of these possible connections by limiting the claim to a pressure distribution pipe disposed **in** the inlet "*would incur a too narrowing restriction of the scope of protection*" in view of the patent application as a whole.

In view of the technical teaching provided in the originally filed application, this is not persuasive.

It is uncontested that the description and claims of the originally filed application only disclose a pressure distribution pipe disposed **in** an inlet (see the originally filed claim 1 and line 19 on page 5 of

the originally filed application). Figures 1 and 2 (reproduced below) show a pressure distribution pipe (4) disposed **in** the inlet (3), which is consistent with the description.

Fig 1

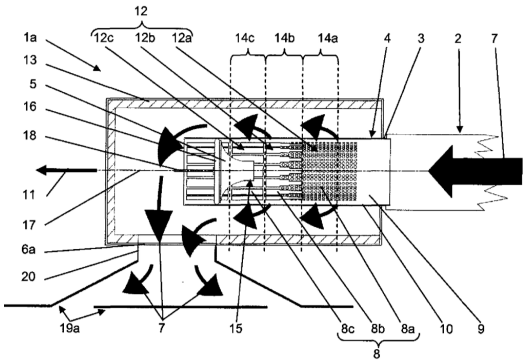
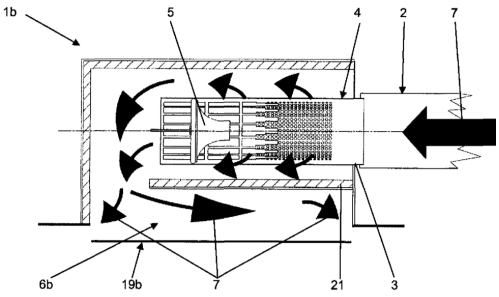


Fig 2



This is irrespective of the relative dimensions of the pressure distribution pipe and the inlet. Aside from what is shown in Figures 1 and 2, the dimensions of these elements are not discussed in the originally filed application. In the figures, the dimensions of both elements correspond to each other.

The respondent also argued in writing that Figures 1 and 2 showed that the protruding end of the pressure distribution pipe (4) was located "at" the inlet (3), but not necessarily in direct contact with it, as a seal could be arranged to reduce air leakage. Furthermore, the figures showed that the duct of the ventilation system (2) surrounded, overlapped or was connected to a protruding end of the pressure distribution pipe (4). Therefore, the placement of the end of the pressure distribution pipe "at" the inlet (3) was purposely selected to enable this connection.

This is not persuasive, however. The expression "in the inlet" does not imply any (direct) contact between the pressure distribution pipe (4) and the inlet (3), but rather the relative position of an undefined portion of the former within the latter, without excluding the possibility that the end of the pressure pipe portion could protrude outwards through the plenum box as shown in the figures. This relative position can be achieved with or without direct contact between the pressure distribution pipe (4) and the inlet (3), and the hypothetical presence of a seal between them - which is not mentioned in the originally filed application - does not change the meaning of the originally disclosed feature "in the inlet". Similarly, the fact that the duct of the ventilation system (2) is connected to the pressure distribution pipe (4) outside the plenum box in Figures 1 and 2 does not alter the meaning of the originally disclosed feature "in the inlet" either, since a portion of the pressure distribution pipe (4) is unmistakably still located in the inlet (3), in accordance with the originally filed description and claims.

1.2.3 The opposition division reasoned that "*the re-wording from 'in the inlet (3)' into 'at the inlet (3)' is considered synonymous in view of the further claim features*", particularly in view of feature M4, "*the pressure distribution pipe extends from the inlet*".

The respondent agreed with this and further argued that the requirement for the pressure distribution pipe to extend from the inlet **into** the plenum box (feature M4) implied that a part of the pipe end had to be located outside of the plenum box, as shown in Figures 1 and 2. According to the respondent, even though "extends from the inlet" might be fulfilled if the pressure

distribution pipe were flush with the inlet, the feature "**into** the plenum box" required an insertion into the interior of the plenum box from outside the plenum box. Thus, an end of the pressure distribution pipe arranged within the inlet of the plenum box was implicit, and the pressure distribution pipe of the amended claim 1 was therefore restricted to a position with a portion arranged **in** the inlet, just as originally disclosed.

This is not persuasive, however.

Feature M4 defines "*a pressure distribution pipe which is disposed at the inlet and extends from the inlet into the plenum box*".

Feature M4 does not limit the scope of the claim to embodiments in which the pressure distribution pipe must be positioned **in** the inlet as originally disclosed. Instead, it encompasses embodiments in which the pressure distribution pipe begins immediately at the inlet (in other words, "on" or "flush with" the inlet) at the interior of the plenum box. This pressure distribution pipe would consequently not be disposed "in" the inlet at any time. This "flush" embodiment is also technically meaningful - with or without a corresponding flange formed on the plenum box inner wall - as also acknowledged by the respondent during the oral proceedings. In particular, there does not necessarily have to be a gap.

The extension of the pressure distribution pipe "from the inlet **into** the plenum box" according to feature M4 does not imply that the pressure distribution pipe must begin outside the plenum box or within the inlet. It encompasses embodiments in which the pressure

distribution pipe begins "at the inlet" from the interior side of the inlet - i.e. from an immediately contiguous "flush" position - and extends further "into" the interior of the plenum box. The expression "into the plenum box" merely defines a direction in which the pressure distribution pipe extends, not a penetration into the plenum box from the outside.

The fact that the embodiments disclosed in the figures of the patent application only comprise pressure distribution pipes that begin outside the plenum box (the pressure distribution pipe thus being disposed **in** the inlet at some point) only confirms that the embodiments now encompassed by the amended claim 1 were not originally disclosed. However, this does not mean that the term "into the plenum box" has to be read in the restrictive manner proposed by the respondent.

The respondent acknowledged that the term "at" was a generalisation of the term "in", with the former also including the meaning of "near".

The Board agrees. Therefore, the location "at the inlet", which was not originally disclosed, is broader than the location "in the inlet".

In view of the above, the amended granted feature M4 results in an unallowable extension of subject-matter (Article 100(c) EPC).

1.3 Since claim 1 of the main request and of each of auxiliary requests 1A, 2, 2A, 3, 3A, 4, 4A, 5, 5A, 6, 6A, 7 and 7A comprises feature M4, none of these requests is allowable on the grounds of added subject-matter.

2. The B requests (in particular auxiliary request 1B)

2.1 Admittance - Article 13(2) RPBA

2.1.1 The B requests, and in particular auxiliary request 1B, were submitted after notification of the Board's communication under Article 15(1) RPBA and therefore constitute an amendment to the respondent's case. According to Article 13(2) RPBA, such an amendment shall, in principle, not be taken into account unless there are exceptional circumstances, which have been justified with cogent reasons by the party concerned.

2.1.2 The appellant argued that the objection against the feature "**at** the inlet" on the grounds of an unallowable extension of subject-matter had been raised in the opposition proceedings and again in the statement of grounds of appeal. According to the appellant, it was irrelevant whether or not some of their arguments were based on a transition piece ("Übergangsstück"), since the main argument was that "at" and "in" were different concepts resulting in added subject-matter. The appellant therefore concluded that the B requests should have been submitted by the respondent at the latest with its reply to the statement of grounds of appeal.

2.1.3 Yet this is not persuasive. The success of the objection relating to added subject-matter depends, *inter alia*, on whether the subject-matter defined by the modified but not originally disclosed wording ("at" instead of "in") is technically meaningful. This means that, if - from the viewpoint of the skilled person - the interpretation of the amended feature resulting in

the alleged added subject-matter were excluded on the basis that it was not technically feasible, this would have been a reason for interpreting the feature "at the inlet" as "in the inlet", and therefore there was an extension of subject-matter, in line with the arguments of the respondent.

2.1.4 In its notice of opposition, the appellant had raised the objection relating to feature M4 by stating that the pressure distribution pipe could end shortly before the inlet according to the amended wording of claim 1 (see first paragraph of page 7 of the notice of opposition). However, the appellant did not explain what such a construction would look like or how it would work in practice.

2.1.5 In the annex to the summons, the opposition division took the view that a position "on the inlet" was technically not meaningful, whilst a position "near the inlet" was excluded by the subsequent wording of the claim (see point III at the bottom of page 3 of the annex to the summons).

2.1.6 In reply to the annex to the summons, the opponent provided only one example of what an embodiment not originally disclosed could look like, namely a device comprising an intermediate piece ("Übergangsstück") (see the third paragraph on page 6 of the letter dated 19 October 2023).

2.1.7 In the contested decision, the opposition division repeated the view that a position of the pressure distribution pipe "on the inlet" was technically not meaningful and held that "*a position 'near[, but separate from,] the inlet' is excluded by the subsequent claim wording that the 'pressure*

distribution pipe extends from the inlet'" (see point III on page 5 of the decision).

2.1.8 In its statement of grounds of appeal, the appellant replied by repeating the same single example based on an "intermediate piece" (see the statement of grounds of appeal, page 10, point III.2.e)). The appellant did not contest that a position of the pressure distribution pipe "on the inlet" was not technically meaningful, as contended in the decision; this was therefore not part of its case.

2.1.9 In the Board's preliminary assessment of added matter, the Board did not (and still does not) find the argument based on an embodiment comprising an "intermediate piece" persuasive, since such an embodiment would not comply with the definition of a pressure distribution pipe which extends **from** the inlet (feature M4). This is in line with the conclusions of the opposition division in the contested decision. Feature M4 defines a pressure distribution pipe that extends from (at least) the immediate vicinity of the inlet. This would not be the case if an intermediate piece were interposed between the inlet and the pressure distribution pipe, thereby separating the two elements.

2.1.10 When drafting its communication under Article 15(1) RPBA, the Board found nevertheless that some embodiments could be envisaged in which the pressure distribution pipe begins immediately at the inlet, i.e. at the interior of the plenum box, without intermediate elements in between (see the paragraph bridging pages 9 and 10 of the communication). This was a new example of implementation which provided a technically meaningful

interpretation of "at the inlet", which led to the problem of added subject-matter.

2.1.11 The respondent was entitled to react to this new development in the proceedings as it did, i.e. by submitting new auxiliary requests (the "B requests"). This was done less than two months after receipt of the Board's communication and more than two months before the oral proceedings. Replying to this new argument raised by the Board in its Article 15(1) RPBA communication in relation to the existing added subject-matter objection constitutes exceptional circumstances within the meaning of Article 13(2) RPBA.

2.1.12 Furthermore, the amendments in the B requests are not extensive and do not give rise to further issues. Concerning the argument of the appellant relating to an alleged extension of protection contrary to Article 123(3) EPC, this is not *prima facie* persuasive (see point 2.2 below).

2.1.13 The Board thus exercised its discretion under Article 13(2) RPBA and decided to take the B requests into account.

2.2 Extension of protection by the amendment - Article 123(3) EPC

2.2.1 The appellant argued that the feature "**at** the inlet" defined something different from "**in** the inlet", the first wording excluding the possibility that the pressure distribution pipe could be located in the inlet. This was allegedly confirmed by the German translation of granted claim 1 ("*ein Druckverteilerrohr, das* ***am*** *Einlass angeordnet ist*"). The appellant maintained that the provisions of

Article 69 EPC could not help in this respect, since feature M4 was clear and there was no need to resort to the description and figures - which contradicted this feature - in order to interpret it.

2.2.2 This is not persuasive, however, since the skilled person would not exclude the possibility that the pressure distribution pipe can be "in" the inlet when reading "at the inlet" in feature M4. The usual meaning of the preposition "at" when indicating a position encompasses the possibility of being "in" the position in question (as also argued by the respondent - and the opposition division - with respect to the entry in the Merriam-Webster dictionary). The fact that the term "at" was translated as "*am*" in the German translation of granted claim 1 does not affect how claim 1 should be interpreted in the language of the proceedings.

2.2.3 Furthermore, when assessing a possible extension of protection under Article 123(3) EPC, the description and figures are to be taken into account in accordance with Article 69 EPC and its Protocol (see G 2/88, Reasons 4). In the case at hand, when considering the claims, the description and the drawings, the skilled person would not understand that the particular case of "in the inlet" now defined in the claims of the B requests was excluded from the extent of protection conferred by the patent and the expression "at the inlet". This is due to the technical meaning given to feature M4 and to the fact that **all** the particular embodiments of the patent specification disclose a pressure distribution pipe arranged within the inlet (see Figures 1 and 2). Therefore, the extent of protection conferred by the expression "at the inlet" in claim 1 of the patent comprises the particular case of "in the inlet".

2.2.4 In view of the above, replacing "at the inlet" with "in the inlet" restricts the extent of protection to a particular embodiment that was already encompassed by granted claim 1 and therefore this amendment does not result in an extension of the protection conferred by the patent.

3. Auxiliary request 1B

3.1 Novelty, D2 - Article 54(2) EPC

3.1.1 Feature M1 (plenum box)

The appellant argued that claim 1 did not define what a "plenum box" was, besides the fact that it comprised an inlet and an outlet. According to the appellant, the function of the plenum box was not defined in the claim, and the features the respondent pointed out as relating to the plenum box were not present in the description either. The appellant thus maintained that the duct (11) shown in Figures 1 and 2 of D2 had to be considered a plenum box within the meaning of claim 1. The appellant also argued that normal ducts do not comprise internal elements such as the conical flow control damper (10) shown in D2, and that the two conical parts of it (14, 16) therefore represented the alleged limiting elements of a plenum box.

This is not persuasive, however.

The Board considers a "plenum box" to be a well-known component of HVAC systems. It is an element that is connected to one or more ducts that supply air. This enables air expansion towards a larger volume in order to compensate for air pressure fluctuations in the

system. This was also argued by the respondent. The skilled person would not need a definition of such a common element either in the claim or in the description in order to understand what is actually meant by a "plenum box" and the features that such an element must have. Therefore, an arbitrary sub-portion of an HVAC duct that does not allow for air expansion into a larger volume, such as that considered by the appellant in the device of D2, does not qualify as a "plenum box" for the skilled person. While the presence of the conical damper within the duct section of D2 may well mean that it is not a "simple duct", it does not convert it into a "plenum box" given that it lacks the features of a plenum box.

Consequently, document D2 does not anticipate feature M1.

3.1.2 Feature M5 ("[pressure distribution pipe comprising] *a surface that has perforations which allow the air flow to pass through from an inside of the pressure distribution pipe to an outside of the pressure distribution pipe*")

Concerning feature M5, the appellant argued that the skilled person would understand the term "inside" of the pressure distribution pipe as referring to the side from which the air came from the ventilation system (i.e. where the air pressure was higher) and would understand "outside" as the side towards which the air left the outlet via the pressure distribution pipe (i.e. where the air pressure was lower). According to this understanding of feature M5, the feature was also anticipated by the embodiment in which the airflow takes place from right to left in the device represented in Figure 1.

Yet this is not persuasive, for the reasons set out below.

Feature M5 clearly defines the airflow passing through the perforations of the pressure distribution pipe, from an inside **of the pressure distribution pipe** to an outside **of the pressure distribution pipe**. The skilled person would thus understand what is explicitly and clearly defined therein with reference to the construction of the pressure distribution pipe and would not interpret the feature based on airflow considerations.

Figure 1 in document D2 (reproduced below) shows that the airflow can take place from left to right, as represented by the arrows (F) in the figure. The description explains that airflow can also take place from right to left (lines 10 and 11 of column 4). These are **two separate embodiments**.

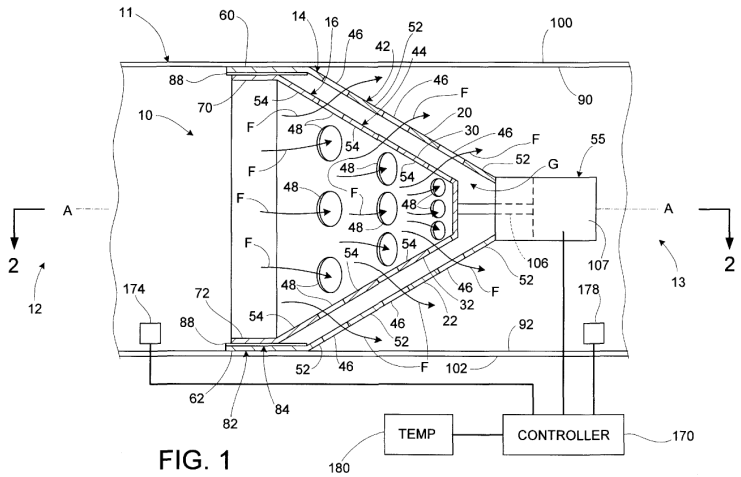


FIG. 1

The skilled person looking at the device of D2 would understand the "inside" and "outside" of the damper element (14) of D2 (considered by the appellant to

correspond to the claimed "pressure distribution pipe") in the usual manner: since the pipe is cone-shaped, its "inside" is the interior of the cone. The skilled person would thus not consider the higher pressure side of the "damper element (14)" to be the "inside" of the pressure distribution pipe, since this would be inconsistent with the construction of the "damper element (14)" shown in the figures of D2, given the usual meaning of the terms "inside" and "outside" when referring to such a conical element.

In the "air flowing from right to left" embodiment of D2, the airflow direction is opposite that represented by the arrows (F) of Figure 1, i.e. the air flows from the outside of the pressure distribution pipe (14) to the inside of this cone-like element, which has a clearly defined interior. Thus, this embodiment does not anticipate feature M5.

Furthermore, and as a side remark, if the reasoning of the appellant were to be accepted, then the regulating damper of D2 ("damper member (16)") would not be arranged "**inside** the pressure distribution pipe", contrary to what is required by feature M7.

3.1.3 Feature M7 ("*a regulating damper configured to angle an incoming air flow from the ventilation system towards the perforations and disposed adjustably in the axial direction inside the pressure distribution pipe*")

It is uncontested that, in the "air flowing from left to right" embodiment, the axially adjustable regulating damper (16), which is arranged within the pressure distribution pipe (14), angles the incoming airflow from the ventilation system (i.e. the left side of the figure) towards the perforations (46) as indicated by

the arrows (F). Thus, the first embodiment of D2 anticipates feature M7.

The appellant argued in writing that, in the "air flowing from right to left" embodiment, the air would move in the opposite direction to that indicated by the arrows (F) in Figure 1.

This is correct and it implies that the incoming airflow from the ventilation system (in this case, on the right of the figure) is not angled by the axially adjustable regulating damper (16) towards the perforations (46), since the perforations (46) are arranged upstream of the axially adjustable regulating damper (16). Consequently, the second embodiment of D2 does not anticipate feature M7.

3.1.4 Feature M8 ("*when the regulating damper is moved towards the inlet, the total aperture cross-section of the pressure distribution pipe for ingress of air into the plenum box is reduced*")

The first embodiment represented in Figure 1 of D2 (i.e. air flowing from left to right) does not anticipate feature M8 since the movement of the axially adjustable regulating damper (16) towards the "inlet" (i.e. to the left side of Figure 1) does not result in a reduction of the total aperture cross-section.

This was not contested by the appellant.

3.1.5 Conclusion

The subject-matter of claim 1 differs from the "air flowing from left to right" embodiment of D2 at least

in feature M1 (plenum box) and feature M8 (total aperture cross-section reduction).

The subject-matter of claim 1 differs from the "air flowing from right to left" embodiment of D2 at least in feature M1 (plenum box), feature M5 ("*surface that has perforations which allow the air flow to pass through from an inside of the pressure distribution pipe to an outside of the pressure distribution pipe*") and feature M7 ("*regulating damper configured to angle an incoming air flow from the ventilation system towards the perforations*").

3.2 Inventive step - Article 56 EPC

3.2.1 Starting from D10

(a) D10 as a piece of prior art

The question of whether D10 had been made available to the public can remain unanswered, since the objection is not persuasive for the reasons set out below.

(b) Distinguishing features

It is common ground that the subject-matter of claim 1 differs from the device shown in pages 22 and 23 of D10 at least in feature M9 ("*some of the perforations take the form of a first perforation type with a first aperture cross-section and some take the form of a second perforation type with a second aperture cross-section*").

The Board agrees and considers that, in view of the inventive character of this distinguishing feature, which will be explained in the following, it is not

necessary to discuss the alleged anticipation by D10 of the other disputed features.

(c) Technical effect

The appellant argued that, taking into account the fact that the axial relative location of the first and second types of perforations was only defined in dependent claim 6, the distinguishing feature M9 also encompassed embodiments in which the perforations of the first type having a first aperture cross-section could be arranged longitudinally along a first half of the circumference of the pressure distribution pipe, while perforations of the second type having a second aperture cross-section could be arranged longitudinally along the second half of this circumference. According to the appellant, such an embodiment would not solve the technical problem relating to airflow, since the degree of aperture would still vary linearly with the displacement of the regulating damper as in the prior art. The appellant also argued that feature M9 did not specify how the first aperture cross-section was different from the second aperture cross-section, meaning that the claim left open the possibility that the difference could be only in shape and not in surface, or that there was no difference at all. This also spoke against any technical effect with respect to airflow. The appellant further stated that the technical effect described in paragraph [0010] of the patent specification ("reduce the number of holes which have to be made in the pressure distribution pipe...") did not apply either. This was because this paragraph stated that a third type of perforations with a specific third aperture cross-section, which differed from both the specific first aperture cross-section and the specific second aperture cross-section, was

required for it. However, this feature was not defined in claim 1. The appellant therefore concluded that, since feature M9 could not be considered to have a technical effect or to solve an objective technical problem, it could not justify the presence of an inventive step.

This is not persuasive.

To begin with, the Board is of the opinion that feature M9, in defining first and second types of perforations with first and second aperture cross-sections, has to be read such that the first and second perforations as well as their cross-sections are different from one another.

Moreover, even if the appellant were correct in its interpretation of the distinguishing feature M9, such that the first and second perforation types would not have an effect in the airflow variation in spite of feature M6 ("*a total aperture cross-section of the perforations in a first section of the pressure distribution pipe varies relative to a total aperture cross-section of the perforations in a second section of the pressure distribution pipe* ***as viewed in an axial direction***") and in spite of the content of the description and figures (see G 1/24, Headnote), this feature would still have a technical effect.

Paragraph [0010] of the patent specification discloses that, when several perforation types are used, "*this makes it possible to reduce the number of holes which have to be made in the pressure distribution pipe for achieving an increase in the aperture cross-section in the axial direction of the pressure distribution pipe*". Even though the technical effect is mentioned

immediately after the disclosure of the possibility of also using a third perforation type, the skilled person would understand, on the basis of basic mechanical considerations, that it necessarily applies as soon as more than one perforation type is provided. This is because the presence of more than one single perforation type logically allows for the combination of different perforation types to reduce the number of holes, as disclosed. This applies whether the first and second perforation cross-sections differ in surface or just shape, the latter resulting in the possibility of combining the holes in different patterns.

As there is a technical effect linked to the distinguishing feature, it cannot be said that feature M9 does not solve any objective technical problem, and therefore that the distinguishing feature could not support the presence of an inventive step. The Board notes that the appellant did not explain why feature M9 would be obvious when taking into account the technical effect disclosed in paragraph [0010] of the patent specification.

(d) Combination with common general knowledge

The appellant further argued that if the technical effect asserted by the respondent were adopted, the objective technical problem would be how to provide an improved adjustment of the airflow in a plenum box. The appellant maintained that the skilled person was aware of this problem, and that the Zeta-value graph on page 21 of the statement of grounds of appeal showed the beneficial effect of an arrangement of perforations as defined in feature M9 with respect to a homogeneous construction of perforations as in D10. The appellant argued that it would therefore be obvious to the

skilled person based on their common general knowledge how to change from the linear variation of airflow of D10 to a non-linear one, namely by varying the size of the perforations along the pressure distribution pipe.

This is not persuasive, however, since the appellant did not substantiate the alleged common general knowledge of the skilled person. The appellant included a Zeta-value graph on page 21 of its statement of grounds of appeal in order to demonstrate the beneficial effect of an arrangement of perforations as defined in feature M9 compared to a homogeneous construction of perforations as in D10. However, the Zeta-value graph does not show the common general knowledge of the skilled person before the priority date; it merely constitutes an alleged comparison test between the invention and D10. While the graph could be accepted as demonstrating the technical effect of the distinguishing feature M9, it cannot constitute an answer to the question of whether the claimed subject-matter was obvious, as it merely confirms that the invention of the contested patent solves the objective technical problem posed. Therefore, it supports the presence of an inventive step rather than calling it into question. The question of whether the Zeta-value graph can be admitted under Article 12(4) RPBA as raised by the respondent can thus be left unanswered since this piece of information is ultimately irrelevant for the question of inventive step.

Since no evidence of common general knowledge was provided besides unsubstantiated allegations, this line of attack is not convincing.

(e) Combination with D2

The appellant argued, in case common general knowledge was not sufficient to demonstrate the obviousness of the distinguishing feature M9, that the skilled person would find a solution to the problem of improving the flow pattern in D2 (see column 1, line 56), where perforations of different cross-sections were provided in a system working on the principle of a fixed pressure distribution pipe and a movable dampener (see Figure 1, and column 5, lines 11 to 26), i.e. the same working principle as in D10. According to the appellant, this teaching was independent from whether or not all perforations were open during the control of the pressure distribution pipe, an aspect which was not defined in claim 1 anyway. The appellant argued that the skilled person would consequently apply this solution to the pressure distribution pipe of D10, thus arriving at the invention defined in claim 1.

This is not persuasive.

First, D2 does not disclose a plenum box but a damper that regulates the flow of air within a HVAC duct. It is thus questionable whether the person skilled in the art would consider D2 at all in the context of the problem posed. Secondly, D2 does not describe a relationship between the different perforation types *per se* and an improvement of the flow patterns. The statement in line 56 of column 1 concerns the damper of D2 as a whole without specifying the parts thereof that are responsible for this technical effect. The skilled person would thus have no reason to believe that the different perforation types on the surface of the damper member (14) ("pressure distribution pipe") improve the flow pattern by themselves. D2 instead

discloses that the intended airflow is achieved by an adjustment of the gap (G) between the conical damper members (14, 16) (see column 7, lines 19 to 33, and 57 to 64). The size of the perforations (46, 48) is only discussed in D2 in relation to the total duct section in order to produce a higher or lower flow rate when the gap (G) is adjusted (see column 5, lines 14 to 26), all openings being constantly open during the regulation of D2. Such a discussion is not directly applicable to D10, since the regulation of its damper works on a different principle, namely as a function of the number of perforations which are active or not depending on the position of the circular regulating damper moving longitudinally inside the pressure distribution pipe.

Third, even if the skilled person had a reason to understand that the perforations of D2 were related to the objective technical problem posed, it should be noted that the skilled person would - according to the objection - depart from a device showing a cylindrical pressure distribution pipe and a circular regulating damper (see the central picture on page 23 of D10), regardless of the wording of the contested claim 1. They would therefore not understand how the perforations of different sizes shown in the conical pressure distribution pipe (14) of D2, which work together with the also conical regulating damper (16) in order to regulate the gap (G) for adjusting the airflow, could be suitable for a pressure distribution pipe of a different design - cylindrical - which works with a different regulating damper and is based on a different working principle - a circular disc which renders perforations active or inactive. Nor would the skilled person understand how this feature could solve any problems in such a different technical context. The

different shapes and sizes of the perforations (46, 48) of D2 are only shown in the context of this particular device, where the flow rate is defined by the gap (G) between the conical regulating damper (16) and the conical pressure distribution pipe (14) (see D2, column 7, lines 57 to 65). From this particular teaching, the skilled person would not understand that the shape and size of the perforations in any pressure distribution pipe working with any undefined regulating damper can be varied in the manner shown in D2 to provide the same (hypothetical) advantage.

3.2.2 Starting from D1 or the alleged public prior use of UAT

D1 discloses a cylindrical pressure distribution pipe (2) and a circular regulating damper (6) working on the same principle as that considered by the appellant in D10.

The alleged public prior use of UAT also comprises such a cylindrical pressure distribution pipe and such a circular regulating damper (see D12, page 1; D16, pages 4 and 5; and D17, pages 2 and 3).

Since the subject-matter of claim 1 differs from the two proposed starting points at least by the same distinguishing feature (M9) as in the case of D10, and since the necessary modifications to arrive at the invention starting from these documents are analogous, the same reasoning as that explained in points 3.2.1 (b) to (d) above applies. The question of whether the objection based on the alleged public prior use of UAT can be admitted can thus be left unanswered as it is irrelevant for the outcome of the proceedings.

3.2.3 Starting from D2

The appellant argued that the skilled person would realise that the second embodiment of D2 (airflow from right to left) resulted in a higher pressure loss and worse acoustic properties than the first embodiment (airflow from left to right), due to the more drastic change of direction of the airflow linked to the orientation of the pressure distribution pipe (14) and the regulating damper (16). The appellant argued that the skilled person, when trying to solve this problem, would change the orientation of the pressure distribution pipe (14) and the regulating damper (16) by 180 degrees, and would adapt the fixing of these elements accordingly. According to the appellant, the skilled person would first fix the adjustable regulating damper (16) to the wall of the duct (11) and, since the static pressure distribution pipe (14) could no longer be fixed to the wall of the duct (11), they would then attach the pressure distribution pipe (16) to the actuator (55), arriving in this manner at the subject-matter of the distinguishing features M5 and M7.

This is not persuasive, however, since D2 does not disclose a plenum box (feature M1) (see point 3.1.1 above), and the skilled person would therefore not arrive at the invention of claim 1 even if the device of D2 were modified as argued by the appellant.

Moreover, the reasoning of the appellant is based on hindsight and no evidence of the alleged common general knowledge has been provided.

Even if the Board agreed with the objective technical problem proposed by the appellant (how to reduce

noise), D2 does not suggest a solution to this problem. The effect of the airflow with regard to each side of the conical elements (14, 16) is not mentioned in this document. Therefore, the skilled person would not be motivated to modify D2 in order to solve the objective technical problem. The appellant has also failed to substantiate any common general knowledge in this respect.

Furthermore, according to the appellant's logic, simply turning the device disclosed in D2 by 180 degrees - thus shifting to a construction which is symmetrical to the "air flowing from right to left" embodiment of Figure 1 - would suffice to solve the alleged problem (see point 3.1.5 above concerning the distinguishing features of such an embodiment). The several complex modifications of the device of D2 argued by the appellant entail - among other things - inverting the roles of the static and adjustable damper members (14, 16) by adopting a different mounting arrangement for each of them. The skilled person would not undertake such major modifications without a specific motivation to do so.

3.2.4 Conclusion

The subject-matter of claim 1 of auxiliary request 1B involves an inventive step (Article 56 EPC).

3.3 Adapted description

The appellant had no objections to the adapted description of auxiliary request 1B.

The Board sees no reason to object to this either.

4. Maintenance of the patent - Article 101(3)(a) EPC

In view of the foregoing, taking into consideration the amendments made by the respondent, the patent and the invention to which it relates meet the requirements of the EPC, and therefore the patent can be maintained as amended (Article 101(3)(a) 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 a patent as amended in the following version:

   Claims:
   No. 1 to 17 of auxiliary request 1B, filed with the letter of 18 December 2025

   Description:
   Pages 2 to 6, filed as "Adapted description for Aux Req 1A" with the reply to the statement of grounds of appeal

   Drawings:
   of the patent specification

The Registrar: The Chairman:

C. Spira C. Herberhold

Decision electronically authenticated