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Datasheet for the decision of 21 May 2024

Case Number: T 2311/19 - 3.2.03

Application Number: 08015450.3

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IPC: F23D14/58, F23D14/70, F23D14/10

Language of the proceedings: EN

Title of invention:
Premixed burner

Patent Proprietor:
Polidoro S.p.A.

Opponents:
Worgas Bruciatori S.r.l.
Viessmann Group GmbH & Co. KG
BEKAERT COMBUSTION TECHNOLOGY B.V.

Relevant legal provisions:
EPC Art. 54, 56, 83, 84, 123(2), 123(3)
EPC R. 80
RPBA Art. 12(4) (2007)
RPBA 2020 Art. 13(2)

Keyword:
Novelty - main request (yes)
Inventive step - problem and solution approach - non-obvious modification - main request (yes)
Sufficiency of disclosure - main request (yes)
Claims - clarity - main request (yes)
Amendments - allowable (yes) - extension beyond the content of the application as filed (no)
Late-filed facts - admitted (no)

Decisions cited:
T 0428/18, T 1688/21, J 0014/19, G 0003/14

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Case Number: T 2311/19 - 3.2.03

D E C I S I O N
of Technical Board of Appeal 3.2.03
of 21 May 2024

Appellant: (Patent Proprietor)	Polidoro S.p.A. Via Lago di Misurina, 76 36015 Schio VI (IT)
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Respondent: (Opponent 1)	Worgas Bruciatori S.r.l. Via della Formace, 7 41043 Formigine, Modena (IT)
Representative:	Leihkauf, Steffen Falk Jacobacci & Partners S.p.A. Via Senato 8 20121 Milano (IT)
Respondent: (Opponent 2)	Viessmann Group GmbH & Co. KG Viessmannstraße 1 35108 Allendorf/Eder (DE)
Representative:	Wolf, Michael Patent- und Rechtsanwälte Wolf & Wolf Hirschstrasse 7 63450 Hanau (DE)
Respondent: (Opponent 3)	BEKAERT COMBUSTION TECHNOLOGY B.V. J.C. van Markenstraat 19 NL-9403 AR Assen (NL)
Representative:	EP&C P.O. Box 3241 2280 GE Rijswijk (NL)

Decision under appeal: **Interlocutory decision of the Opposition Division of the European Patent Office posted on 4 June 2019 concerning maintenance of the European Patent No. 2037175 in amended form.**

Composition of the Board:

Chairman C. Herberhold
Members: R. Baltanás y Jorge
D. Prietzel-Funk
B. Goers
F. Bostedt

Summary of Facts and Submissions

I. European patent No. 2 037 175 B1 relates to a premixed burner.

II. Three oppositions were filed against the patent based on Articles 100(c), 100(b) and 100(a) EPC in conjunction with Articles 54 and 56 EPC.

III. The current appeal is against the interlocutory decision of the opposition division which found that auxiliary request 1 filed during oral proceedings fulfilled the requirements of the EPC.

The opposition division also found that the main request filed on 14 February 2018 with the reply to the notice of opposition did not involve an inventive step over the combination of the Eco-Hometec public prior use - based on document E6.3, among others - with the common general knowledge.

IV. This decision was appealed by the patent proprietor (the appellant).

V. In a communication pursuant to Article 15(1) of the Rules of Procedure of the Boards of Appeal (RPBA), the Board indicated its preliminary opinion.

VI. Opponent 1 (Worgas Bruciatori S.R.L.) (respondent 1) did not reply to the statement setting out the grounds of appeal and did not attend the oral proceedings on 21 May 2024, as announced with its letter dated 2 May 2024.

The proceedings thus continued without respondent 1 in accordance with Rule 115(2) EPC and Article 15(3) RPBA.

VII. Requests

At the end of the oral proceedings, the requests were as follows.

The appellant requested that the decision under appeal be set aside and that the patent be maintained in amended form on the basis of a set of claims filed as the main request with the letter dated 18 February 2018 and an amended description filed with the letter dated 27 March 2024 or a set of claims filed as auxiliary request 1A on 18 June 2020 and the same amended description. Furthermore, the appellant requested that the witness Mr Stapenséa be heard again before a Dutch court under oath.

Opponent 2 (Viessmann Group GmbH & Co. KG, respondent 2) and opponent 3 (Bekaert Combustion Technology B.V., respondent 3) requested that the appeal be dismissed.

VIII. Claim 1 of the main request, including the numbering of its features as adopted by the parties, reads as follows (amendments compared to originally filed claim 1 are marked in bold; amendments compared to granted claim 1 are underlined):

1 *A premixed burner (10), especially for condensation* **[*~~burners~~*] *boilers,*** *comprising:*

2 *a tubular body (12),* **[*~~closed on a head by a plate (24) welded or crimped along~~*]** *the side surface* **[*~~whereof~~*] *of which is provided with*** *a plurality of*

holes and slits (14) [~~is obtained, characterised in that it comprises~~]

3 the tubular body (12) having one head

4 constituting an inlet (20),

5 and at least one disk (16),

6 fixed to [~~the opposite~~] said [~~one~~] head of said tubular body (12) [~~, provided with a plurality of through openings or holes (22)~~]

7 and constituting the distribution head of the air-gas mixture into the same body (12),

8 wherein [~~characterized in that~~] the at least one disk (16) is provided with through openings or holes (22) [~~and constituting the distribution head of the air-gas mixture into the same body (12)~~]

9 and [~~that~~] said tubular body (12) is closed on the other head by a plate (24),

10 said plate (24) being welded or crimped along the said side surface of the tubular body (12),

11 wherein the disk[~~c~~] (16) with holes (22) which closes one of the ends of the tubular body (12) [~~performing the function of the internal distributor air-gas mixture~~]is provided with a flange (18) with circumferential lowering (18') for coupling with the inlet (20) of the tubular body (12) opposite the head closed by said plate (24),

12 characterized in that the premixed burner (10) does not comprise an internal distributor for distributing the air-gas mixture into the burner (10),

13 the disc (16) with holes (22) performing the function of the internal distributor for distributing the air-gas mixture,

14 and the at least one disk (16) is made integrally with the flange (18)

Claim 4 of the main request reads as follows:

The premixed burner according to claim 1, characterized in that the through openings or holes (22) are obtained by partial cutting and folding of portion of disk (16) to form embossed tongues developing towards the inner part of the tubular body (12) and are alternated to the same openings (22).

Claim 8 of the main request reads as follows:

The premixed burner according to claim 7, characterized in that said through openings or holes (22) are made on two disks (16) spaced from one another.

IX. Prior art

The following documents have been cited, both in the statements setting out the grounds of appeal and during the opposition proceedings, and are relevant to this decision:

D1.3:	EP 1 813 864 A2
E1.3:	US 6,540,505 Bl
E5:	US 2007/0054228 Al
E5.3:	US 4,766,883 A
E6:	EP 0 476 299 A2
E6.3:	Drawing number 603.008.001 signed by J. Stapenséa, 18 April 1996
E8.3:	EP 1 538 395 A1
E9:	EP 1 087 180 A1

E10: Telefax from Giannoni France S.A. to Furigas, 25 September 1997

E11: US 5,022,352 A

E12: US 5,085,579 A

E13: Drawing number 146.071.001-G, Beakert Combustion Technology, 1998/2004

E14: Drawing number 221.001.001, Furigas, 10 November 1997 and "*List sales of period Q1 - 12 1999 by customer*", 30 December 1999

E16: Printout "*Listing sales to Remeha of material code 9003977*" from 12 December 2005 to 12 September 2007

E17: Printout "*Stock overview BOM explosion*"

E20: Printout "*Extract from SAP of Bekaert Combustion Technology B.V.: link between Remeha product code 54754 and Bekaert Combustion Technology B.V. product code 9003977*"

X. The appellant's arguments concerning the main request can be summarised as follows.

(a) Admittance of late-filed objections and allegations of fact

The reply of respondent 3 to the statement setting out the grounds of appeal and its submissions filed after the reception of the communication under Article 15(1) RPBA contained a large number of new objections and allegations of fact which had not been presented during the opposition proceedings.

Since no exceptional circumstances could be seen which justified this amendment of the case, these objections and submissions should not be admitted into the appeal

proceedings under Article 12(4) RPBA 2007 or Article 13(2) RPBA.

(b) Amendments occasioned by a ground for opposition

The objections based on Rule 80 EPC were raised for the first time in appeal proceedings without any justification and were therefore to be held inadmissible for being late filed.

Furthermore, the amendments contested by the respondents were carried out in response to a ground for opposition and thus complied with Rule 80 EPC.

(c) Added subject-matter

The objection based on an alleged difference between "internal distributor" (in features 12 and 13) and "inner distributor" (in the originally filed application) was late filed and to be held inadmissible. Furthermore, both terms were synonyms so that the feature "internal distributor" had a basis in the originally filed application.

Similarly, the objection based on an alleged lack of basis for the feature "comprising" (vs "composed") was late filed without any justification and should be held inadmissible. In any case, the originally disclosed wording "composed of" was not a closed term, as shown by the different embodiments disclosed (and claimed) in the originally filed application. The feature "comprising" thus had a basis in the patent application considered as a whole.

Paragraph [0002] of the originally filed application disclosed how a traditional internal distributor

carried out the air-gas mixture distribution into the burner. The skilled person immediately understood from paragraph [0014] that both the traditional internal distributor and the disk with holes replacing the latter took the air-gas mixture from a header and brought it into the burner, i.e. that both elements had this common function, independently of how it was precisely carried out. Thus, the function of distributing the air-gas mixture into the burner was originally disclosed for both the traditional internal distributor and the disk with holes of the invention. Consequently, all objections based on an allegedly originally undisclosed distribution **into** the burner were baseless.

Concerning the alleged non-exclusion of some types of "internal distributors", paragraph [0018] of the application as published taught the absence of an internal distributor in absolute terms.

Furthermore, the skilled person understood from the original application that the disk with holes replaced the traditional internal distributor in performing the general function of distributing the air-gas mixture into the burner (feature 13) but obviously not doing this necessarily in the same manner.

The objection based on the two alleged alternatives in feature 8 ("openings" vs "holes") was also late filed and to be held inadmissible. Moreover, there were no two alternatives in feature 8 since the two words were used as synonyms to define a same feature.

The late-filed objection based on the argument that the disk and flange were not originally disclosed as "made integrally" was to be held inadmissible. In any case,

it was not persuasive since the patent application as a whole provided a basis for it in paragraph [0012] and Figure 3.

The objections against some dependent claims of the main request based on alleged unallowable intermediate generalisations were raised without regard to the content of the patent application as a whole. The patent application provided a basis in each case when its content as a whole - and not just the claims - was taken into account.

(d) Extension of the protection conferred

Granted claim 1 required that the disk with holes performed "*the function of the internal distributor air-gas mixture*" - i.e. the general function of distributing the air-gas mixture into the burner (see paragraph [0017] of the patent specification) - and not that this be done in the particular way of the traditional internal distributor, which was disclosed as disadvantageous (see paragraph [0005]). Since feature 13 ("*the disc with holes performing the function of the internal distributor for distributing the air-gas mixture*") defined exactly the same capability, the protection conferred by claim 1 of the main request was not extended.

The argument about other functions allegedly carried out by the internal distributor ("*performing the function of the internal distributor air-gas mixture*"), which were not defined any more in claim 1 of the main request, thus broadening the scope, was an unsubstantiated assertion by the respondents.

(e) Clarity

It was clear to the skilled person from the wording of the feature alone what was meant by an "*internal distributor for distributing the air-gas mixture into the burner*". Since both the internal distributor and the disk with holes of claim 1 performed the same function of distributing the air-gas mixture from the header **into** the burner (even if doing so in different ways), no ambiguity for the skilled person could arise from feature 12.

The late-filed objections based on alleged contradictions between feature 12 and some dependent claims were to be held inadmissible and anyway were unfounded since the embodiments defined in the dependent claims did not comprise an "internal distributor", contrary to the arguments of the respondents.

Similarly, the late-filed objection about an alleged lack of support by the description of the feature "made integrally" (feature 14) was to be held inadmissible and in any case was not persuasive since the content of paragraph [0017] of the patent specification - in particular the embodiment of the distribution head being composed of two disks - did not contradict feature 14.

(f) Sufficiency of disclosure

The skilled person reading claim 4 with a mind willing to understand learnt that the openings and tongues defined in the claim alternated with each other in a circular direction. This was disclosed in Figure 5 and column 3, lines 29 to 33 of the patent specification.

The skilled person had therefore no difficulty in reproducing this aspect of the invention.

The late-filed objection on an alleged incompatibility between the subject-matter of claims 4 ("tongues") or 8 ("openings or holes made on two disks") with feature 12 ("*the premixed burner does not comprise an internal distributor*") which would prevent the skilled person from putting the invention into practice was unfounded since these dependent claims did not define any "internal distributor".

(g) Novelty

D1.3

The only disclosure of a tubular body within the meaning of claim 1 in the embodiment of D1.3 corresponding to Figure 13 was the one shown in Figure 9, and it was formed by the ensemble of modular diffuser elements (19) put together. The head of this tubular body opposite the alleged "disk" was not closed by a plate as defined in feature 9 but open, as visible in Figure 9. Figure 13 merely concerned a single diffuser element and not a tubular body within the meaning of claim 1. Consequently, the subject-matter of claim 1 differed from the embodiment of D1.3 at least by virtue of feature 9.

E13 (Remeha alleged public prior use)

This alleged public prior use was not sufficiently substantiated and, furthermore, the device of E13 comprised an internal distributor (4) and therefore did not anticipate the subject-matter of claim 1 as a whole.

(h) Inventive step

Eco-Hometec prior use as the closest prior art

This prior use was not sufficiently proven, and the decision of the opposition division had to be revised. Furthermore, the Board had to issue an order that the witness Mr Stapenséa be heard again under oath before a Dutch court to verify aspects of his declaration before the opposition division.

Even assuming for the sake of argument that the prior use was public, the device shown in E6.3 did not comprise a disk made integrally with the flange as defined in feature 14. This fact had been questioned by respondent 3 only after receipt of the communication of the Board under Article 15(1) RPBA, meaning that this amendment of respondent 3's appeal case was a fresh objection of lack of novelty which should not be admitted in the absence of exceptional circumstances.

There could be no doubt as to how to interpret feature 14 ("*the at least one disk is made integrally with the flange*") since the patent specification disclosed in lines 42 to 44 of column 2 that "*disk 16 is preferably made in a single body with flange 18*". This confirmed that the interpretation "as a single integral piece" (in the words of respondent 3) was the only possible one in the patent, irrespective of any other possible meanings of the word "integral" according to general dictionaries.

The embodiment of the patent relating to a construction comprising two spaced disks (column 3, lines 18 to 20 and claim 8 of the main request) did not contradict

this interpretation since it was not defined that the second disk had to be made integral with the flange as well. Feature 14 merely required that "the at least one disk" added in feature 5 was made integral with the flange, and it did not relate to further possible disks in the device.

Document E6.3 showed a separate disk (2) and a flange (1) connected by spot welding. This did not represent an integral construction within the meaning of claim 1.

Concerning the technical effect of the distinguishing feature and the corresponding technical problem, the patent disclosed that the problem addressed by the invention was to increase the reliability of the burner. Making the disk and the flange integral contributed to a more reliable burner since the pieces would not come loose from each other. This advantage - together with a simplification of the device - was thus derivable from the patent.

The respondents did not provide any evidence showing that making a disk integrally with the flange of a burner was common general knowledge for the skilled person. No document was cited which disclosed this possibility. The skilled person would not contemplate this option without any prompt since such a modification had implications for the behaviour of the device. This was confirmed by the general information in the prior art on the importance of "keeping loose connections" between the elements of a burner which allow a certain mechanical flexibility in terms of pressure waves and thermal expansion.

The skilled person had other alternatives to solve the problem starting from the device shown in E6.3. From

all possible options, in the absence of any prompt, the skilled person could only choose, when trying to simplify the burner (as argued by the respondents) or increase its reliability, the one defined in feature 14 with the benefit of hindsight.

As to the proposed combination with D1.3, the skilled person had no reason to consult this document. D1.3 related to a totally different type of burner with a toroidal chamber open in the middle with the air-gas mixture injected into the annular space between the walls of the double-walled burner (see Figures 1 and 9). This construction was intended to increase the combustion power (see paragraph [0004]). This was the problem addressed by D1.3.

Figures 11 and 17 of D1.3 disclosed an annular seat (24) with openings instead of a disk as in E6.3. Figure 15 disclosed as well an annular element or ring, not a disk. Paragraph [0017] even taught away from making elements of the burner integral since it disclosed that it was preferable to arrange expansion joints allowing deformations and mutual displacements of the diffuser elements to a certain extent (see column 4, lines 36 to 41). Therefore, the skilled person would not regard the elements of the device shown in D1.3 to be compatible with the burner of E6.3, and this document could not motivate the skilled person to make the disk integrally with the flange.

The skilled person would not find a solution to the posed problem in E9 either since the embodiment considered by the respondents did not disclose any disk but a guiding element ("Strömungselement" 2) which had to be kept spaced from the flange (9) to prevent problems of pressure waves (see paragraphs [0015] and

[0016]). According to claim 1 of E9, such a space ("Kurzschlussöffnung" 1) had to be present also if a disk ("Drosselscheibe") was used instead of the guiding element 2. Therefore, no pointer towards making a disk and a flange integral could be obtained from E9.

Remeha alleged public prior use as the closest prior art

The respondents did not provide an unbroken chain of evidence for this alleged prior use, all the evidence being in their hands.

In any case, the tubular element (4) of the burner shown in E13 was an internal distributor within the meaning of claim 1 since it was arranged inside the tubular body and compensated for pressure differences within this element, as acknowledged by the respondents. Therefore, feature 12 ("*the premixed burner does not comprise an internal distributor for distributing the air-gas mixture into the burner*") was not anticipated by the alleged public prior use.

Giannoni alleged public prior use as the closest prior art

Apart from the fact that the evidence did not prove the public availability of the prior use of the device shown in any of E10 and E14, this device disclosed a premixed burner where (at least) the same distinguishing features as in the case of E13 (Eco-Hometec prior use) could be ascertained. Therefore, the subject-matter of claim 1 would be inventive even if starting from a device as shown in E10 or E14 for the same reasons applying to the case of E13.

E1.3 as the closest prior art

Document E1.3 did not disclose any flange within the meaning of claim 1. The skilled person would have no reason to move the disk (27) of E1.3 to close the lower inlet of the tubular body (24) since the document explicitly taught (see column 4, lines 16 to 18) to arrange the disk (27) in the vaporising chamber (17). The skilled person would also have no reason to provide the disk (27) with a flange having a circumferential lowering, let alone to make the disk in one piece with a flange.

E9 as the closest prior art

E9 only showed a tubular element (2) provided with one opening (14) and projecting into the tubular body (4) of the burner. It did not show a disk within the meaning of claim 1, let alone one made integrally with a flange. Even if claim 1 of E9 defined a disk, there was no disclosure of any undefined disk being made integrally with a flange. The starting point of the objection was thus wrongly set such that it could not succeed.

E8.3 as the closest prior art

E8.3 showed an internal distributor and did not suggest that it be dispensed with. Consequently, the objection was flawed from its starting point.

E5.3 as the closest prior art

Since the device shown in E5.3 is comparable to that of E1.3, the objection was not persuasive for the same reasons as for the latter.

XI. The respondents' arguments against the main request can be summarised as follows.

(a) Admittance of late-filed objections and allegations of fact

The objections considered inadmissible by the appellant were just new arguments, and therefore there was no reason to exclude them from the proceedings, in particular since they were relevant and could determine the outcome of the appeal proceedings.

(b) Amendments occasioned by a ground for opposition

Several of the amendments in the main request did not comply with Rule 80 EPC.

If the amendment of feature 13 (performing the function of the internal distributor **for distributing the** air-gas mixture) did not violate Article 123(3) EPC, this meant that the amendment did not change the meaning of the feature and it merely addressed an issue of clarity, which was not a ground for opposition.

Similarly, if the amendment of feature 14 (the at least one disk being **made** integrally with the flange) did not infringe Article 123(2) EPC, this meant that the amendment did not change the meaning of the originally disclosed feature "**obtained** integrally" and was thus likewise not occasioned by a ground for opposition.

Finally, the word "disc" in granted claim 1 was replaced by "disk" in feature 11 of the main request. This was done only to tidy up the wording of the patent.

(c) Added subject-matter

Firstly, the insertion of the feature "**internal** distributor" infringed Article 123(2) EPC since the originally filed application only disclosed an "**inner** distributor" and an "inner liner".

Additionally, paragraph [0010] of the originally filed application only disclosed a premixed burner **composed** of a limited number of elements, whereas claim 1 defined a premixed burner **comprising** several features. Since "composed" was a closed term indicating that the burner comprised exclusively the features defined in paragraph [0010] and claim 1 was not limited to these features by the use of the word "comprising" - e.g. features 12 and 13 were not cited in paragraph [0010] - claim 1 extended beyond the original disclosure. The two wordings had different meanings which should not be confused (see T 1688/21, Reasons 3.2).

Furthermore, the originally filed application did not have any explicit basis for supplementary feature 12 ("*the premixed burner does not comprise an internal distributor for distributing the air-gas mixture into the burner*"). The word "into" in this feature implied that the internal distributor to be excluded was not the traditional internal distributor disclosed in the originally filed application - which distributed the air-gas mixture **from within** the tubular element - but an internal distributor arranged at the entrance point of the burner (i.e. of the tubular element) and distributing (i.e. injecting) the air-gas mixture **into** the burner. Consequently, the exclusion of such a distributor performing a different function than that

of the traditional internal distributor was an extension beyond the original disclosure.

Moreover, feature 12 merely excluded "an internal distributor for distributing the air-gas mixture into the burner". Since this did not exclude an internal distributor being present **for other functions** and since such an embodiment was not originally disclosed, claim 1 extended beyond the original disclosure.

Concerning the dependent claims, the originally disclosed disk with holes constituted an internal distributor within the meaning of feature 12, in particular in view of the embodiments of dependent claims 4 (tongues) and 8 (second spaced disk). Therefore, there was no basis for feature 12, which excluded such an element.

Feature 13 ("*the disc with holes performing the function of the internal distributor for distributing the air-gas mixture*") did not have a basis in the originally filed application either. Paragraph [0003] of the patent application disclosed the function of the traditional internal distributor, i.e. leading the air-gas mixture to the burner surface in a **radial** direction. The disk with simple holes defined in claim 1 could not perform this function since the distribution direction was **axial** from the front of the tubular element. Consequently, the capability defined in feature 13 extended beyond the original disclosure.

Alternatively, in contrast to what was defined in feature 13, the originally filed application did not disclose that the disk **performed the function** of an internal distributor but only that this internal distributor was **replaced**. The originally filed

application did not even state the function of the internal distributor which, as was known to the skilled person, included several technical effects. The application as filed gave no indication that after replacement only the function of distributing the air-gas mixture would be performed by the disk.

Feature 8 of claim 1 defined two alternatives for the disk, namely that it could be provided either with through openings or with holes. Since features 11 and 13 only applied to the "holes" alternative, claim 1 encompassed embodiments where the function of the internal distributor was not performed by the disk provided with through openings. There was no basis for such an intermediate generalisation.

As a last objection related to claim 1, feature 14 did not have a basis in the application as originally filed since the latter only disclosed that the disk and flange were **obtained** integrally (e.g. in claim 5 as originally filed). The originally filed application also disclosed that the disk "*is preferably made in a single body with* [the] *flange*" (see paragraph [0012]). This implied that these elements were previously two separate entities. Since "making" referred to the first step in a production step and "obtained" related to the situation after the last production step, the application as filed provided no basis for the disk and flange being made integrally.

Furthermore, granted claim 5 corresponded to originally filed claim 4, which was dependent on claim 3. Therefore, adding the subject-matter of claim 5 to claim 1 of the main request without the subject-matter of originally filed claim 3 - which remained in claim 4

of the main request - constituted an unallowable intermediate generalisation.

In a similar manner, claim 5 of the main request corresponded to originally filed claim 6, which was dependent on "the previous claims", thus also including claim 2 - corresponding to claim 3 of the main request. However, claim 5 of the main request was not dependent on claim 3, thus resulting in an unallowable intermediate generalisation.

Claim 6 of the main request caused a similar unallowable extension since it corresponded to originally filed claim 7, which was dependent on claims 2 and 3 - corresponding to claims 3 and 4 of the main request. Since claim 6 was not dependent on claim 3, the subject-matter of the latter had been omitted, thus resulting in an unallowable intermediate generalisation.

(d) Extension of the scope of protection

Feature 13 ("*the disc with holes performing the function of the internal distributor for distributing the air-gas mixture*") extended the scope of protection defined by claim 1 in an unallowable manner.

Granted claim 1 defined that the disk with holes performed "*the function of the* ***internal distributor air-gas mixture***", i.e. the distribution of the air-gas mixture to the burner surface in a radial direction as this was done by the "*internal distributor air-gas mixture*" (see paragraph [0003] of the patent application specifying the "leading" of the mixture to the burner surface). Therefore, some means had to be

present in the device of granted claim 1 to ensure this capability.

However, feature 13 of amended claim 1 merely required that the disk with holes performed the function of "distributing the air-gas mixture" in any possible way, i.e. not necessarily as it was done by an "internal distributor air-gas mixture", i.e. possibly without the above-mentioned means. Therefore, the scope of protection defined by claim 1 of the main request was broader than that defined by granted claim 1.

Moreover, granted claim 1 defined the function of an element, namely the "internal distributor **air-gas mixture**", whereas claim 1 of the main request defined a function of an "internal distributor", which was different from the one of granted claim 1. As the function of the "internal distributor **air-gas mixture**" had been removed from claim 1, the scope of protection had been broadened.

Furthermore, "*the function of the internal distributor air-gas mixture*" defined in granted claim 1 comprised more functions than the distribution of the air-gas mixture defined in feature 13 - e.g. suppressing sound and backfire as shown in some documents of the prior art. Claim 1 of the main request thus required less capabilities from the disk with holes than granted claim 1, thus resulting in a further extension of the claimed scope of protection.

(e) Clarity

It was not clear what an "internal distributor" was since this wording did not correspond to any unambiguously defined term in the field. Consequently,

the skilled person did not know what should be missing from the premixed burner according to feature 12 ("*the premixed burner does not comprise an internal distributor for distributing the air-gas mixture into the burner*").

More in particular, feature 12 was not clear since its wording did not match what the skilled person understood from the description. According to the patent specification, traditional internal distributors distributed the air-gas mixture in a radial manner to the burner surface, i.e. **from within** the burner (see paragraphs [0003] and [0010]). However, feature 12 excluded an internal distributor for distributing the air-gas mixture **into** the burner. The skilled person would therefore not know what kind of internal distributor was actually to be excluded by feature 12.

Furthermore, some features of claim 4 ("*the through openings or holes are obtained by partial cutting and folding of portion of disk to form embossed **tongues developing towards the inner part** of the tubular body*") and 8 ("*said through openings or holes are made on **two disks spaced** from one another*") were in contradiction with feature 12 since a part of the disk (in the case of claim 4) or the internal disk (in the case of claim 8) would form the internal distributor excluded by feature 12.

Finally, feature 14 - which did not correspond verbatim to granted claim 6 and thus could be examined for clarity - was rendered not clear by the content of paragraph [0017] of the patent specification, which states that the disk may be spaced from the flange. This would not be possible if the disk was made integrally with the flange as defined in feature 14.

(f) Sufficiency of disclosure

The patent did not contain information which would enable the skilled person to implement the feature "*embossed tongues* [..] *alternated to the same openings*" of claim 4 since "*alternated*" means first to one side and then to another side, or at least in one way followed by another way in turns.

Figure 5 and the passage between lines 26 and 33 of column 3 of the patent specification could not enable the skilled person to reproduce the invention defined in claim 4 since Figure 5 showed tongues being folded from different sides of the triangular opening, the tongues extending circumferentially in some cases and radially in other cases. This distribution could not be interpreted as tongues alternating with openings since this would not be the case, whatever direction was chosen.

Furthermore, the subject-matter of claims 4 ("*tongues developing towards the inner part of the tubular body*") and 8 ("*said through openings or holes are made on two disks spaced from one another*") was incompatible with feature 12 ("*the premixed burner does not comprise an internal distributor for distributing the air-gas mixture into the burner*") since the tongues and the second disk fell under the definition of the "internal distributor" to be excluded.

(g) Novelty

D1.3

The subject-matter of claim 1 was not novel over D1.3, which disclosed all the defined features in Figures 11, 15 and 17 and the corresponding passages of the description. Document D1.3 disclosed in a direct and unambiguous manner the presence of a plate closing the head of the tubular body, as shown in the top right-hand part of Figure 13, corresponding to a view of the embodiment of Figure 9.

E13 (Remeha alleged public prior use)

The subject-matter of claim 1 was also not novel over E13. This objection was to be admitted since it had already been raised in the notice of opposition.

(h) Inventive step

Eco-Hometec prior use as the closest prior art

The subject-matter of claim 1 was obvious when starting from the Eco-Hometec prior use as the closest prior art in combination with either the common general knowledge, D1.3 or E9.

Feature 14 ("*the at least one disk is made integrally with the flange*") could be interpreted in two ways.

- The disk and flange were made **into** a single integral piece (i.e. several components could be connected into a single piece).
- The disk and flange were made **as** a single integral piece (i.e. the single piece derived from a common origin).

The first interpretation encompassed embodiments where the disk and flange were connected by means such as welding - i.e. the disk and flange resulting in the defined integral construction of feature 14 would not necessarily have a common origin. This view was supported by the usual understanding of the word "integral" according to different dictionaries, which confirmed that both the first and the second interpretation were possible.

The patent specification and amended claim 1 also supported the first interpretation. Claim 1 defined that the premixed burner comprised **at least** one disk (feature 5) and that the **at least** one disk was made integrally with the flange (feature 14). Consequently, the premixed burner could also comprise two disks, as disclosed in column 3, lines 18 to 22 of the patent specification, where an embodiment comprising two spaced disks was discussed. Paragraph [0010] of the patent confirmed that the two spaced disks constituted the distribution head. Consequently, the skilled person would conclude that, when two disks are provided, they must be made integral with the flange as defined in feature 14. The skilled person reading the patent would immediately think of the easiest way of producing such an embodiment, i.e. by welding the two disks to the flange. Casting or machining such an ensemble would be automatically discarded for not being realistic owing to the associated cost. Once the disk and the flange were fused during welding, the resulting device would be monolithic as required by feature 14.

The disk and the flange disclosed in E6.3 were connected by spot welding. This was confirmed by the hearing of Mr Stapenséa before the opposition division (see page 6 of the minutes related to the hearing).

Therefore, there was no difference between the subject-matter of claim 1 and the device disclosed by the Eco-Hometec prior use which could justify the presence of an inventive step.

Even if it was considered that the second interpretation of feature 14 applied and that this was a distinguishing feature, it would still be obvious.

Firstly, as the opposition division stated, there were only two alternatives when considering how to produce the disk and the flange, namely to make them either as a single body or as multiple components connected together. The choice of the first alternative was therefore an obvious possibility among only two possible ways for the skilled person.

Applying the problem-solution approach would lead to the same conclusion. The patent did not disclose any advantage linked to the distinguishing feature since "increasing the reliability" of the premixed burner was disclosed only in connection with the absence of an internal distributor.

Claim 1 did not require that the connection between disk and flange be completely closed, and the contested patent encompassed embodiments comprising open spaces in that region (see column 3, lines 22 to 24). Consequently, increasing the resistance of the connection between the disk and flange could not form part of the objective technical problem, and the only remaining problem was the simplification of the device. Simplifying a device by producing its separate components in a monolithic way was an obvious alternative for the skilled person.

Concerning the alleged technical disadvantages of the modification, it was unlikely that there were open spaces between the disk and the flange of E6.3 in view of their relative positions. Even if there were, their influence on the air-gas mixture flow would be insignificant in view of the relatively much larger openings in the disk. Thus, there was no difference in the air-gas mixture flow or the flexibility of the connection when the disk and flange were produced integrally. Even if there were some differences, paragraph [0016] of the patent disclosed that the skilled person would know how to adapt the parameters of the holes upon calibration of the system, thus compensating for any possible effects in the construction of the connection. If the skilled person did not know how to do this, an issue of sufficiency of disclosure would arise.

Alternatively, the skilled person would find a solution to the posed problem in E9 or in D1.3.

Claims 1 and 4 of E9 disclosed that openings ("Kurzschlussöffnung", "Bohrung") could be arranged along the flange of the device shown in Figure 1. The reference to a need for open spaces around the flange disclosed in E9 would not dissuade the skilled person from consulting this document since the contested patent also comprised embodiments where such a spacing was defined. The skilled person would learn from E9 that an element (2) comprising several openings can be made in one piece with its flange (the latter corresponding to the region of the "Strömungselement" (2) where "Verprägungen" (3) were arranged) and that this was advantageous in terms of simplifying the construction (see paragraph [0009]). Consequently, the skilled person would implement such a

solution in the device shown in E6.3 in an obvious manner.

The skilled person would have an incentive to also consult D1.3 since it concerned the same type of burner and the same technical field (see paragraph [0002]), and thus they would have a reasonable expectation of solving the posed problem. Figures 11 and 17 of D1.3 disclosed a plate with openings, the former being integrally made with a flange. The skilled person understood that this solution was compatible with the burner of E6.3. The contested patent confirmed that a truncated cone shape such as that disclosed in D1.3 was a possible embodiment for the premixed burner and, in any case, Figures 9 and 10 of D1.3 disclosed burners of a straight shape as in E6.3. The skilled person would focus on the construction of the diffuser and flange, and the fact that the diffuser was not a disk would not be a concern to them. Even if it were, Figure 16 of D1.3 disclosed a disk with holes made integrally with a flange.

Remeha alleged public prior use as the closest prior art

Document E13 - corresponding to the device rendered publicly available by the prior use - showed a disk comprising a large central opening and several smaller openings around it. Item 4 was not an internal distributor within the meaning of feature 12 ("*the premixed burner does not comprise an internal distributor for distributing the air-gas mixture into the burner*") but an anti-noise tube comprising a single axial outlet, the tube enabling the pressure waves to be balanced within the tubular body.

Giannoni alleged public prior use as the closest prior art

The device shown in E10 and E14 basically corresponded to the premixed burner of the Eco-Hometec public prior use (E6.3). Therefore, the same logic applied, and the subject-matter of claim 1 was also not inventive over the Giannoni public prior use on the same grounds as for the Eco-Hometec case.

E1.3 as the closest prior art

The subject-matter of claim 1 differed from E1.3 in that the disk with holes which closed one of the ends of the tubular body was provided with a flange with circumferential lowering for coupling with the inlet of the tubular body (feature 11) and in that the at least one disk was made integrally with the flange (feature 14).

The first distinguishing feature was known from any of E5, E6, E6.3, E10, E11, E13, E14 and D1.3.

The second distinguishing feature was obvious, as explained for the Eco-Hometec prior use.

E9 as the closest prior art

The skilled person would combine E9 - which disclosed, among other things, a perforated disk made integrally with a flange - with E8.3 in an obvious manner, thus arriving at the subject-matter of claim 1.

E8.3 as the closest prior art

The cylinder (12) of E8.3 represented a disk within the meaning of claim 1. The differentiating feature between claim 1 and E8.3 was that the at least one disk was provided with through openings or holes. No technical benefits for the differentiating feature could be derived from the patent application. Therefore, the problem to be solved was to provide an alternative inlet device for the premix gas, the solution being obvious in light of any of D1.3, E1.3, E5.3, E9, E10, E11, E12, or the public prior uses related to E6.3 or E13.

E5.3 as the closest prior art

The subject-matter of claim 1 differed from E5.3 by the same features as in the case of E1.3. Therefore, the same reasoning as in that case applied, and this subject-matter did not involve an inventive step when starting from E5.3 either.

Reasons for the Decision

1. Admittance of late-filed objections and allegations of fact - discretion of the Board under Article 12(4) RPBA 2007

It is uncontested that several objections raised by respondent 3 with its reply to the statement setting out the grounds of appeal in relation to Articles 54, 56, 83, 84, 123(2) and 123(3) EPC and Rule 80 EPC were not raised during opposition proceedings.

The appellant requested that all objections raised for the first time in the appeal proceeding be held inadmissible under Article 12(4) RPBA 2007 - the legal provision applicable in the current case pursuant to Article 25(2) RPBA - since they were filed late.

The respondents argued that the objections considered inadmissible by the appellant were just new arguments, and therefore there was no reason to exclude them from the proceedings, in particular since they were relevant and could determine the outcome of the appeal proceedings.

For the Board, this is not a convincing justification that can be applied to **new lines of attack or objections**, even if they are based on documents already in the proceedings or even if they concern grounds for opposition which were timely raised but based on a different line of attack (see T 428/18, Reasons 1.2.5 e) and f); and J 14/19, Reasons 1.6 to 1.8). A new objection that, even if based on grounds for opposition or documents already part of the proceedings, relies on new facts cannot be considered an argument to which the provisions of Articles 114(2) EPC and 12(4) RPBA 2007 are not applicable.

The respondents provided no reason that prevented them from raising any of the newly raised objections against the main request - filed more than a year in advance of the oral proceedings - in the opposition proceedings. In fact, the respondents could and indeed should have done so to give the opposition division the opportunity to issue a decision on these points that could be reviewed by the Board.

Consequently, the Board has discretion under Article 12(4) RPBA 2007 to hold inadmissible such new objections and lines of attack which could and should have been raised in opposition proceedings (see Case Law of the Boards of Appeal, 10th edn., V.A.5.11.3 a)), and it has applied this discretion to the detriment of the respondents when considered appropriate (see below).

2. Main request, amendments occasioned by a ground for opposition - Rule 80 EPC

It is undisputed that the objections under Rule 80 EPC were raised for the first time in appeal. The Board holds that they could and should have been filed during opposition proceedings since the current main request had been filed in opposition proceedings more than one year before the oral proceedings.

Furthermore, the objections are *prima facie* not convincing since the amendments in features 11, 13 and 14 of claim 1 of the main request are occasioned by objections under the grounds of lack of novelty and inventive step against granted claim 1, the amendment in feature 13 being motivated by the insertion of feature 12 in reply to these objections.

Whether or not an objection raised is eventually found convincing by the Board has no bearing on the fact that an attempt to overcome that objection is occasioned by the ground for opposition raised, meaning that the respective amendment is allowable under Rule 80 EPC.

In the case at hand, the subject-matter of claim 1 was limited by the addition of features 11, 12 and 14, and this qualifies as a legitimate attempt to overcome at

least the grounds for opposition based on Articles 54 and 56 EPC.

With respect to the argument related to the inconsistent spelling of the term dis**c**/dis**k**, this spelling inconsistency had been present in the granted claim set (both "dis**k**" and "dis**c**" being used in claim 1 as granted, "dis**k**" being used in the dependent claims) and is merely maintained in the claim set of the current main request. This does not constitute a violation of the requirement of Rule 80 EPC. Feature 11 of the main request derives from claim 6 as granted in which the spelling "disk" had been used.

In view of the above, the Board holds the objection inadmissible, applying its discretionary power under Article 12(4) RPBA 2007.

3. Main request - Article 123(2) EPC

3.1 Features 12 and 13: "internal distributor" vs "inner distributor"

The line of attack based on an alleged lack of disclosure of the feature "**internal** distributor" (instead of an "**inner** distributor") was raised for the first time in appeal, without providing any reason for doing so.

This line of attack is *prima facie* not persuasive since "internal" is a synonym of "inner" in the current technical context, and no new meaning can be derived from the use of it. The mere suspicion that another wording might have been used with the intention of extending the subject-matter beyond the original disclosure is not enough to support an objection in the

absence of substantive arguments based on technical reasons.

In view of the above, the Board holds the objection inadmissible under its discretionary power in accordance with Article 12(4) RPBA 2007.

3.2 Feature 1: "comprising" vs "composed"

The objection raised by the respondents is not persuasive since "composed" (unlike the use of the expression "consists of" in patent claims) is not a term which generally excludes *per se* the presence of other features. It is also not understood in such a limiting sense in the context of the current case for the following reasons.

While paragraph [0010] of the originally filed application (in the following reference will be made to the A2 publication) indeed discloses that the premixed burner of the invention is "composed of" a number of elements like the tubular body and the disk with holes, the rest of the patent specification expands on the possible design of these elements, including several further details. Making the disk integral with a corresponding flange is disclosed in column 2, lines 37 and 38. The absence of an internal distributor (feature 12, see also point 3.3 below) and the function of the disk with holes (i.e. feature 13; see point 3.6 below) are disclosed in column 2, lines 49 to 56. Moreover, claim 1 as originally filed defined a premixed burner **"comprising"** a tubular body, a plate closing the head and at least one disk constituting the distribution head, with further parts (flange, embossed tongues, further disk) being defined in dependent claims. This

means that claim 1 as originally filed provided an open definition of the parts of which the burner is made.

The situation is thus different from that described in T 1688/21, Reasons 3.2, which concerned the use of the expression "made of" in a context in which in "***all embodiments*** *detailed there the insert is shown to* ***have only ... two parts,*** *head 2 and body 3*" (emphasis added). Consequently, this case focused on a different expression (even if "composed of" was used as a kind of synonym by the Board merely as a side remark) and was related to different facts and different disclosure.

3.3 Feature 12: "into"

Added feature 12 reads: "*the premixed burner does not comprise an internal distributor for distributing the air-gas mixture* ***into*** *the burner*" (emphasis added).

The skilled person reads in the application as filed that "...*burners are traditionally provided with an inner liner or distributor*..." (see paragraph [0003]) and that "...*the need of using an inner liner* ***for distributing and delivering the air-gas mixture to the burner*** *implies a considerable cost*..." (emphasis added) (see paragraph [0004]).

Thus, the originally filed application discloses the **general** function of an internal distributor ("inner" and "internal" being synonyms; see point 3.1 above), namely to distribute the air-gas mixture coming from the header into the tubular body of the premixed burner.

This general function is confirmed in lines 49 to 56 of column 2, where it is disclosed that the disk with

holes of the invention **replaces** the internal distributor for air-gas mixture distribution purposes, i.e. it performs the same general function of the internal distributor, even though not in precisely the same manner as the latter. The skilled person has no doubt that this can be - and actually is - done in a different manner since the **particular** way of distributing the air-gas mixture by the internal distributor caused the problems which the invention seeks to overcome (see column 1, lines 22 to 28 and paragraph [0008]).

Consequently, the internal distributor excluded by feature 12 is the same internal distributor disclosed in the patent application as being replaced by the disk with holes (see column 2, lines 49 to 51), i.e. an internal distributor performing the general function of distributing the air-gas mixture from the header into the tubular body of the premixed burner. No extension of subject-matter can thus be seen.

3.4 Feature 12: "inner distributor" in general (i.e. for purposes other than "for distributing the air-gas mixture into the burner") allegedly not excluded in claim 1

The respondents argued that feature 12 only excluded internal distributors "for distributing the air-gas mixture **into** the burner", while other types of internal distributors were allegedly not excluded, contrary to the original disclosure.

This is not persuasive.

The function of an internal **distributor** must be interpreted in the context of the claimed premixed

burner. As can be directly deduced from the wording of the feature alone, the (excluded) internal **distributor** necessarily distributes the air-gas mixture. Even if there were any doubt about this, the originally filed description confirms the function of an internal distributor (see point 3.3 above).

Consequently, given a technically reasonable construction of claim 1, the subject-matter of the claim is limited to premixed burners which do not have any type of internal **distributor** since each burner is necessarily capable of performing a distribution of the air-gas mixture within the interior of the tubular body. Whether or not an internal distributor has other functions is immaterial for this discussion since all internal **distributors** are excluded by feature 12.

This is in line with the subject-matter disclosed in the originally filed patent application (see paragraph [0007] and column 2, lines 49 to 51).

3.5 Alleged lack of basis for feature 12 in view of the disk with holes - in particular according to dependent claims 4 and 8 - constituting an internal distributor

This line of attack has been raised for the first time in appeal without any apparent reason for doing so.

In any event, the line of attack is *prima facie* not persuasive since the argument at most amounts to a contradiction between claims 1, 4 and 8, i.e. a lack of clarity. However, there is no risk of perceiving these features to be contradictory since the person reading the original application is informed of what an **internal** distributor within the meaning of feature 12 is, namely an internal element arranged within the

tubular body to perform a particular distribution of the air-gas mixture (see paragraph [0003]). This cannot be confused with the arrangement of embossed tongues developing towards the inner part of the tubular body (claim 4) or with a second disk for which the position is undefined (claim 8). Figure 5 and lines 12 to 16 of column 3 of the originally filed application disclose the provision of these features in combination with feature 12.

The Board thus holds inadmissible this objection under its discretionary power pursuant to Article 12(4) RPBA 2007.

3.6 Feature 13 ("*the disc with holes performing the function of the internal distributor for distributing the air-gas mixture*")

As explained in preceding points 3.3 and 3.4, the skilled person understands when reading the originally filed application that there is a common general function shared by the "traditional" internal distributor and the disk with holes of the invention, namely to distribute the air-gas mixture from the header into the tubular body of the premixed burner.

Since it is originally disclosed in paragraph [0007] and in column 2, lines 49 to 56 that the disk with holes replaces the internal distributor in performing this **general** function, no unallowable extension of subject-matter can be seen in feature 13.

Paragraph [0007] discloses that the object of the invention is "*to provide a premixed burner which should not require setting up and coupling an inner*

distributor of the air-gas mixture to the burner itself".

The passage between lines 49 and 56 of column 2 discloses that this object is attained by arranging a disk provided with openings to a head of the tubular body, this disk constituting "the **distributing** head of the air-gas mixture" into the tubular body.

Thus, it was originally disclosed that the internal distributor is to be replaced by the disk with holes and that this disk performs the general function previously carried out by the internal distributor, i.e. **to lead the air-gas mixture into** the tubular body, where the mixture will eventually reach the surface of the latter. Consequently, there is no reason why the skilled person should understand that this function required further features (such as the tongues shown in Figure 5 of the patent or even a further inner distributor), the omission of which would allegedly result in an unallowable intermediate generalisation.

It is true that the air-gas mixture distribution by the disk with holes is done in an indirect and non-impinging manner due to the axial direction of the flow coming from the disk located at the head of the tubular body, in contrast to what an internal distributor within the meaning of feature 12 **could** do. However, it is self-explanatory for the skilled person that the general function of distributing the air-gas mixture does not have to be done in precisely the same way as the prior-art internal distributors discussed in the patent application due to the differences in design (and in view of the technical problems caused by "traditional" internal distributors, which are to be

avoided, see column 1, lines 22 to 28 and paragraph [0008], and point 3.3 above).

Consequently, when feature 13 is interpreted in a technically reasonable way, it is understood that the function defined only refers to leading the air-gas mixture toward its target and not to precisely imitating the particular distribution pattern provided by the traditional internal distributor discussed in paragraphs [0003] and [0005].

The particular embodiment confirms this interpretation by disclosing that the disk with holes replaces the internal distributor, thus defining a distribution head which makes the internal distributor unnecessary (see column 2, lines 49 to 56 and paragraph [0017]).

Consequently, feature 13 does not extend the subject-matter of claim 1 of the main request in an unallowable manner.

3.7 Feature 8: "openings or holes"

This line of attack was raised for the first time in appeal without any reason given for doing so.

The objection is *prima facie* not persuasive since the person skilled in the art understands that feature 8 does not define two alternatives but merely defines the same feature by using two synonyms for which no difference in meaning can be ascertained, as disclosed in the originally filed application. This is immediately derivable when reading e.g. paragraphs [0015] and [0017] of the originally filed application, where the terms "through openings" and "holes" are interchangeably used. This can at best be considered a

lack of conciseness, which although is a requirement of Article 84, second sentence EPC, is not objectionable in opposition appeal proceedings in accordance with G 3/14 (see headnote: "requirements of Article 84 EPC"; feature 8 was present in claim 1 as granted).

In view of the above, the Board holds this objection inadmissible under its discretionary power pursuant to Article 12(4) RPBA 2007.

3.8 Feature 14 ("*the at least one disk is made integrally with the flange*")

This line of attack was raised for the first time in appeal without any reason given for doing so.

The line of attack is *prima facie* not persuasive since the alleged difference between "made integrally" and "obtained integrally" is artificial and does not correspond to the usual meaning of the terms, in particular when interpreted in the context of the originally filed application. Both terms apply to methods where the disk and flange are obtained or made from a single origin or precursor (such as by deep drawing). Moreover, feature 14 has a basis in line 37 of column 2 and at least Figures 1, 4 and 5.

Consequently, the Board holds this line of attack inadmissible under its discretionary power pursuant to Article 12(4) RPBA 2007.

3.9 Integration of features of granted claim 5 into claim 1

The alleged unallowable intermediate generalisation put forward by the respondents cannot be acknowledged by the Board.

What is relevant for assessing an alleged extension of subject-matter is what the originally filed application **as a whole** discloses and not what the combination of the originally filed claims alone defines.

The subject-matter of granted claim 5 corresponds to feature 11 of claim 1, which reads: "*wherein the disk with holes which closes one of the ends of the tubular body is provided with* ***a flange with circumferential lowering for coupling*** *with the inlet of the tubular body opposite the head closed by said plate*" (emphasis added).

The subject-matter of originally filed claim 3 reads: "*the through openings or holes are obtained by* ***partial cutting and folding of portion of disk to form embossed tongues*** *developing towards the inner part of the tubular body and are alternated to the same openings*" (emphasis added).

It is apparent that feature 11 is not inextricably linked to the subject-matter of originally filed claim 3. The way of producing the through openings or holes is independent of the presence of a flange for coupling to the tubular body. All the disclosed embodiments comprise feature 11 (see Figures 1 to 4), whereas the combination of this feature with the subject-matter of originally filed claim 3 is only disclosed in the embodiment of Figure 5.

Finally, originally filed claim 4 defines "[t]*he premixed burner according to previous claim*" without reciting a specific preceding claim in this reference. However, the skilled person would read claim 4 in context of the content of the preceding claims and

recognise that claims 2 and 3 define alternatives for producing the openings or holes. From this understanding, the skilled person further understands that originally filed claim 4 is intended to depend on any one of the preceding claims. For this reason alone, the features of originally filed claim 3 can be omitted.

Thus, there is a basis in the originally filed application for incorporating feature 11 into claim 1 without the subject-matter of originally filed claim 3.

3.10 Claim 5

As in the previous point, the Board cannot see any unallowable intermediate generalisation in the subject-matter of claim 5.

Claim 5 of the main request defines that "*the disk with the flange is* ***constrained by welding and/or crimping to the head*** *of the tubular body*" (emphasis added).

Claim 3 of the main request defines that "*the through* ***openings or holes are bounded by an embossed collar*** *oriented towards the inner part of the tubular body*" (emphasis added).

There is no inextricable technical relationship between the two pieces of subject-matter since the way of connecting the flange to the head of the tubular body is independent of the construction of the through openings or holes. This is confirmed by the disclosure of the subject-matter of claim 5 in column 3, lines 7 to 9, which is unrelated to the only embodiment disclosing the subject-matter of claim 3 (i.e. that of Figure 4).

Furthermore, originally filed claim 6 is not necessarily dependent on claim 3 since it concerns a "*premixed burner according to the previous claims*". Since claims 2 and 3 are alternatives, this alone justifies that the subject-matter of the latter was not put in claim 5 of the main request.

Consequently, the subject-matter of claim 5 corresponds to what was disclosed to the skilled person in the originally filed application.

3.11 Claim 6

Claim 6 of the main request defines that "*the disk has a* ***non planar*** *development*" (emphasis added).

Claim 3 of the main request defines that "*the through* ***openings or holes are bounded by an embossed collar*** *oriented towards the inner part of the tubular body*" (emphasis added).

The subject-matter of claim 6 is disclosed in column 3, lines 9 to 12 of the originally filed application in isolation from any particular construction of the through openings or holes, let alone the one corresponding to claim 3, which is first disclosed in column 3, lines 21 to 23.

Thus, the originally filed application as a whole provides a basis for defining the subject-matter of claim 6 in isolation from that of claim 3.

4. Main request, extension of the scope of protection - Article 123(3) EPC

4.1 Feature 13: kind of distribution performed

As explained in point 3.6 above, the skilled person understands from the originally filed application that the disk with holes performs the **general** function of distributing the air-gas mixture from the header into the tubular body of the premixed burner. This applies also to the patent specification, which contains passages corresponding to those cited in the context of the patent application (see paragraphs [0003] and [0004] of the patent specification, and also column 2, line 55 to column 3, line 4).

The wording of granted claim 1 "*the disk with holes which closes one of the ends of the tubular body performing the function of the* ***internal distributor air-gas mixture***" (emphasis added) - irrespective of its syntactic correctness - does not support the interpretation proposed by the respondents. The skilled person would not have understood that the air-gas mixture distribution defined in claim 1 as granted had to be done in precisely the same **particular** way as by the traditional internal distributor discussed in paragraphs [0003] and [0005] of the patent specification since that particular way involved the disadvantages that the invention sought to address (see the discussion on Article 123(2) EPC above and paragraphs [0005] and [0010] of the patent specification).

In view of the above, no extension of the scope of protection has occurred with respect to the function performed by the disk with holes (feature 13) since the function is the same in granted claim 1 and amended claim 1.

4.2 Feature 13: other functions/features allegedly required by granted claim 1 and omitted in claim 1 of the main request

The arguments of the respondents for this line of attack are likewise not persuasive.

As explained in point 3.3 above, the function of an internal **distributor** in a premixed burner is directly derivable from the wording of the feature alone, i.e. to distribute the air-gas mixture coming from the header into the tubular body of the premixed burner. The content of the patent specification - which is to be used when interpreting the scope of the claims in accordance with Article 69 EPC - confirms this interpretation (see paragraph [0003]).

In view of this, **granted** claim 1 can only be interpreted as meaning that it is the disk with holes defined in claim 1 which performs the function of the internal **distributor** for **distributing** the air-gas mixture within the tubular body, albeit in a different way due to the nature of the disk.

As the opposition division correctly considered, any other function of an internal distributor would depend on its construction and properties and cannot be considered an implicit feature being shared by **all** internal distributors, which have as a common functional feature only the distribution of the air-gas mixture.

The respondents' understanding that the granted feature "performing the function of the internal distributor air-gas mixture" required features additional to the disk with (simple) holes (as shown in Figures 1 to 4)

for leading the air-gas mixture to the burner surface, such as a further internal distributor or the disk having the tongues shown in Figure 5 of the patent, is not in accordance with what the person skilled in the art derives from the patent. It would indeed mean that the embodiment shown in Figures 1 to 4 would not fall under the scope of the claims. Such an understanding is in contradiction with the teaching in the patent as a whole, including the description and the drawings.

Consequently, since feature 13 defines the same function defined in granted claim 1 - even if using a slightly different wording - no extension of the protection the patent confers by the amendment of claim 1 can be seen.

4.3 Feature 13: "the function of the internal distributor air-gas mixture" vs "the function of the internal distributor **for distributing** the air-gas mixture"

It is undisputed that this line of attack - based on an alleged function of an element called "internal distributor air-gas mixture" which would have been omitted in amended claim 1 - was raised for the first time in appeal without any apparent reason for it.

The line of attack is *prima facie* devoid of merit in view of the interpretation of this feature in granted claim 1 as explained in the preceding point, which results in the same subject-matter being encompassed by the concerned features in granted claim 1 and in claim 1 of the main request.

Therefore, the line of attack is held inadmissible by the Board under its discretionary power in accordance with Article 12(4) RPBA 2007.

5. Main request, lack of clarity - Article 84 EPC

5.1 Internal distributor (feature 12)

The respondents submitted that the term "internal distributor for distributing the air-gas mixture into the burner" was not clear, leaving the skilled person in doubt as to what - in accordance with feature 12 - the claimed premixed burner supposedly did not comprise.

However, the term "internal distributor" is well known in the technical field. It is used for an internal element arranged within the tubular body such that it can perform a particular distribution of the air-gas mixture (see page 10/13 of the minutes of Mr Stapenséa's hearing, reply to the first question).

Furthermore, also in view of the interpretation adopted by the Board of the feature "*internal distributor for distributing the air-gas mixture into the burner*", the arguments of the respondents are not convincing.

A disk closing one of the ends of the tubular body and being "*provided with a flange with circumferential lowering for coupling with the inlet of the tubular body*" (feature 10) cannot be confused with such an internal distributor since the construction is fundamentally different. Thus, no contradiction arises between feature 12 and the presence of a disk as defined in claim 1.

Furthermore, the skilled person understands from the wording of the claim alone that to comply with feature 12, no **internal** distributor - i.e. no distributor

arranged within the tubular body - intended for the general function of distributing the air-gas mixture into the premixed burner can be present. No lack of clarity arises from this since, as explained in points 3.3 and 3.6 above, the skilled person is aware that internal **distributors** perform this general function, irrespective of how exactly it is done.

Consequently, there is no lack of clarity about what is excluded by feature 12.

5.2 Alleged contradiction between feature 12 and each of the dependent claims 4 and 8

This line of attack was raised for the first time in appeal without any reason given for doing so.

The line of attack is *prima facie* not convincing since neither the embossed tongues developing from the disk towards the inner part of the tubular body nor an "internal" disk - arranged at an undefined location - can be confused with an **internal** distributor within the meaning of feature 12. This is a fundamentally different element from a construction perspective (see preceding point 5.1).

The Board thus remains of the opinion advanced in the communication under Article 15(1) RPBA and holds this line of attack inadmissible (Article 12(4) RPBA 2007).

5.3 Feature 14 ("the at least one disk (16) is made integrally with the flange") vs paragraph [0017]

It has not been disputed that this line of attack was raised for the first time in appeal without providing any reason for doing so.

The objection seems *prima facie* not convincing. Firstly, the passage in lines 18 to 24 of column 3 of the patent specification concerns embodiments which, if they were found to be contradictory with feature 14, would only result in the claim not being supported by the description, this being an objection under Article 84, second sentence EPC, which cannot be examined in opposition appeal proceedings (see headnote of G 3/14) for subject-matter defined in the granted claims (feature 14 derives from granted claim 6). Secondly, the cited passage actually discloses that the spacing between the disk and the flange is provided "for creating one or more circumferentially open zones for the passage of mixture". This is not contradictory to feature 14 since such open zones do not exclude an integrally made disk and flange being only partially connected along a circumferential direction.

In the absence of new arguments supporting this line of attack, the Board maintains the position taken in the communication under Article 15(1) RPBA and holds the objection inadmissible under Article 12(4) RPBA 2007.

6. Main request, sufficiency of disclosure - Article 83 EPC

6.1 Claim 4: alternated tongues and openings

The objection raised by the respondents against claim 4 is not persuasive.

The usual meaning of "alternated" when applied to correlative entities is merely that two elements alternate along a given direction, i.e. first an

element "a", then an element "b", then element "a" again, and so on.

Looking at Figure 5 (reproduced below) - to which reference is made in the patent specification in the context of this feature (see column 3, lines 26 to 33) - it is self-explanatory that the embossed tongues, some of them partially visible through the openings (22), are alternated with the openings when considering a displacement along a circular direction. Thus, the skilled person is provided with all the necessary information to reproduce this feature.

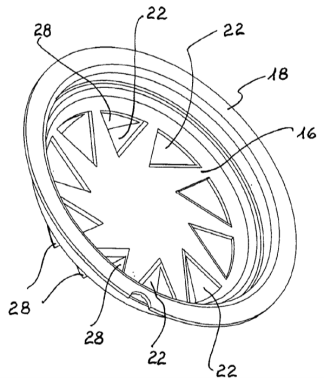


FIG. 5

As the skilled person is used to interpreting technical drawings involving perspectives, they cannot be misled by the different triangular areas visible within some of the openings (22) as argued by the respondents to the extent of thinking that some of the tongues extend from the external side of the openings (22) - i.e. the one parallel to the periphery of the disk - whereas some others extend from one of the lateral sides of the openings (22) - i.e. those pointing towards the centre of the disk. The orientation of the two tongues' tips visible on the left of the figure, together with the perspective views through some of the triangular openings (22), make clear that each tongue is folded along the same lateral side of each opening (22),

resulting is a distribution alternating tongues and openings as explained above.

6.2 Claims 4 (tongues) and 8 (second disk): compatibility with feature 12 ("*the premixed burner does not comprise an internal distributor*")

It is uncontested that the objection of an alleged incompatibility of the subject-matter of claims 4 and 8 with feature 12 of claim 1 was not raised in opposition proceedings.

The objection is based on a new allegation of **fact**, and it is not a new argument in support of a fact brought forward in opposition proceedings.

There is no reason that prevented the respondents from raising this objection in opposition proceedings (see point 1. above).

Furthermore, the new objection relates *prima facie* to an issue of lack of clarity, if at all. Even if the alleged contradiction existed - which is doubtful since it is clear from the context of the invention that an "internal distributor" within the meaning of claim 1 has nothing to do with protrusions from the disk (see points 3.5 and 5.2 above) - it does not prevent the skilled person from resolving it by consulting the description and the figures to ascertain what is intended by the wording of claims 4 and 8.

Consequently, the Board holds inadmissible this objection by exercising its discretionary power under Article 12(4) RPBA 2007 since it could and should have been filed during opposition proceedings.

7. Main request, novelty - Article 54 EPC

7.1 D1.3

The objection based on D1.3 is not persuasive since it is based on reciting features allegedly present in different independent embodiments of D1.3, mainly those corresponding to, on the one hand, Figures 11, 15 and 17 - where feature 11 (a flange with circumferential lowering for coupling with the inlet of the tubular body), among others, is allegedly disclosed - and, on the other hand, Figure 24 - where features 9 (tubular body closed by a plate) and 10 (plate welded or crimped along the side surface of the tubular body), among others, are allegedly disclosed.

The requirement of a direct and unambiguous disclosure is directed to **all** the defined features which normally must be shown in combination. This is not the case here since the skilled person would not recognise a direct and unambiguous disclosure of all the features in combination from among the several individual and independent embodiments disclosed in D1.3.

Furthermore, the Board agrees with the appellant that the annular- or ring-shaped element disclosed in Figure 15 of D1.3 cannot be considered a disk within the meaning of claim 1 since it does not fit with the usual meaning of this term.

The arguments of the respondents of an alleged disclosure of feature 9 ("*said tubular body is closed on the other head by a plate*") in Figure 13 are not convincing either since this figure merely discloses the construction of one of the modular diffuser elements (19). No plate closing the head of a **tubular**

element is disclosed; the tubular element formed from the ensemble of modular diffuser elements is actually open at its top (see Figure 9), as argued by the appellant.

7.2 E13 (Remeha alleged public prior use)

The objection on grounds of lack of novelty of claim 1 over E13 (Remeha alleged public prior use) was raised for the first time during oral proceedings before the Board.

The fact that an objection was raised in opposition - as argued by the respondents - does not release a party from the obligation to present the objection at the first possible moment during the appeal proceedings.

In any case, the Board sees a number of distinguishing features in claim 1 (see point 8.2 below), and this alone renders the novelty objection *prima facie* unsuccessful.

The novelty objection based on E13 is thus not admitted under Article 13(2) RPBA.

8. Main request, inventive step - Article 56 EPC

8.1 Eco-Hometec prior use as the closest prior art

8.1.1 Interpretation of feature 14 ("*the at least one disk is made integrally with the flange*")

Respondent 3 held in its reply to the statement setting out the grounds of appeal that "[c]*laim 1 thus differs from the burner sold to Eco-Hometec in feature 14, i.e. that the disk and flange are made integrally*". The

respondent only questioned the lack of support of feature 14 in point 6.1.3 of its reply, but even in this case it was not questioned that the expression "made integrally" was to be interpreted as the appellant and the opposition division had. The same distinguishing features of the Eco-Hometec prior use were considered in respondent 3's letter dated 30 October 2020.

Respondent 3 provided a new interpretation of feature 14 for the first time with its letter dated 19 April 2024 in reply to the communication of the Board under Article 15(1) RPBA.

Therefore, this change of interpretation is an amendment to the respondent's appeal case which must be dealt with under Article 13(2) RPBA. The late submission without proper justification already renders the amendment inadmissible, but it is also not convincing on the merits as explained below.

Feature 14 is understood by the skilled person as meaning that the disk and flange have to be made as a single integral piece from its origin.

Even if the word "integral" in isolation could be interpreted as referring to an element formed of different components connected together into a single piece, what is relevant is the meaning of the complete wording of feature 14, including its meaning within the context of the patent.

It is disclosed in lines 43 and 44 of column 2 of the patent specification that "*disk 16 is preferably made in a single body with flange 18*". The skilled person reading this information has no doubt that what is

represented in the figures of the patent are disks made in a single body with the flange, the ensemble resulting from a single origin. The fact that a different wording is used to define this in feature 14 - "*the at least one disk is made integrally with the flange*" - does not change the understanding of the skilled person since, as acknowledged by the respondents, "integral" is usually also understood as referring to an element having a single origin in the same way as disclosed in the description and figures.

Contrary to what was argued by the respondents, the embodiment disclosed in lines 18 to 20 of column 3 of the patent specification and defined in claim 8 of the main request does not motivate the skilled person to think of a construction based on the welding of two disks into a separate flange.

Feature 14 relates to "the at least one disk" inserted in feature 5 and merely requires that **this** at least one disk is made integral with the flange. The fact that claim 8 defines that through openings or holes are made on two disks spaced from one another does not imply that the second disk defined must thus also be made integrally with the flange.

This is also not derivable from the passage in lines 18 to 20 of column 3, which merely states that "[m]*oreover, it is possible to provide for the distribution head of burner 10 to be composed of two disks 16, suitably spaced from one another* [...]". The skilled person having read in lines 43 and 44 of column 2 that "***disk*** *16 is preferably made in a single body with flange 18* [...]" (emphasis added) has no reason to believe that the second disk disclosed later on has to be "made in a single body" with the flange as well.

8.1.2 Distinguishing features in E6.3

The appellant acknowledges that the device shown in E6.3 comprises all the features of claim 1 except feature 14.

The respondents acknowledge that the disk (2) ("Platte") and the flange (1) ("Flansch") are separate elements (i.e. they do not have a common origin or precursor) connected by spot welding. Consequently, taking into account the interpretation of feature 14 explained in point 8.1.1 above, the subject-matter of claim 1 differs from the device of E6.3 by this feature ("*the at least one disk is made integrally with the flange*").

8.1.3 Alleged choice between only two alternatives

The opposition division considered that feature 14 was not inventive since it represented a minor constructional change which fell within the scope of the customary practice of the skilled person. More in particular, feature 14 embodied one of the only two possibilities available to the skilled person for manufacturing a disk with a flange, the advantages of this being readily apparent. According to the opposition division, the skilled person would not be hindered by the fear of negatively affecting the flow distribution since they would recognise that this was only modulated by the configuration and distribution of the through opening or holes on the disk and not by the physical connection between the disk and the flange.

The respondents agreed with this consideration and argued that it was obvious to make such modifications

given the common general knowledge. Making the disk integrally with the flange was obvious since it was well known to the skilled person that, when making a mechanical component having multiple portions, it was an obvious alternative to make them integral.

This is not persuasive.

The general reasoning according to which the skilled person would have to decide between only two alternatives of producing the disk and flange - i.e. as a single integral element or as shown in E6.3 - is a consideration tainted by an unallowable *ex-post facto* approach in the absence of a proper problem-solution approach analysis or an explanation as to why the skilled person would focus on these two elements in isolation (see also point 8.1.5 below).

Thus, it cannot be considered that the skilled person simply had to choose between two alternatives for the construction of the disk and flange when starting from the device shown in E6.3 in the absence of a prompt to modify it. This depends, *inter alia,* on the problem posed to the skilled person.

Furthermore, the assumption that this modification does not entail any technical consequences which would require some consideration is not persuasive (see next points).

8.1.4 Technical effect and objective technical problem

The Board agrees with the respondents that the problem of increasing reliability of the premixed burner stated in paragraph [0011] of the patent specification is not linked to feature 14 since it is only mentioned in the

context of avoiding the use of the internal distributor which is at the root of the problems found in the prior art (see paragraphs [0005] for the problem and [0008] to [0010] for the advantages of the invention).

However, the skilled person recognises immediately in view of their common technical knowledge that a technical effect of feature 14 is that the disk and flange behave as a unit, and that this results in a simplification of the premixed burner's construction.

Consequently, the Board applies in the following the objective technical problem proposed by the respondents, namely to simplify the premixed burner shown in E6.3.

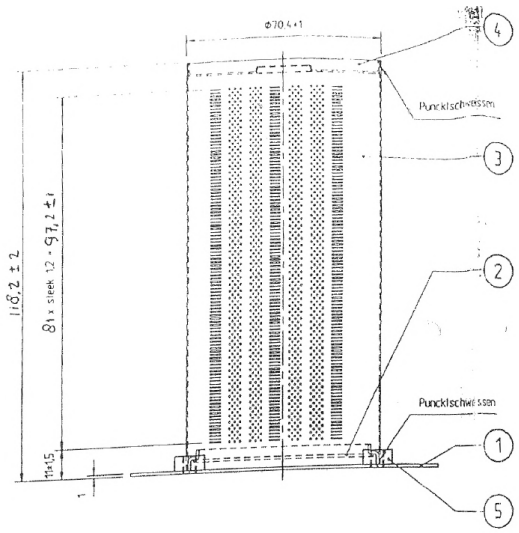
8.1.5 Modification not being obvious in view of common general knowledge

The posed problem is to simplify the device of E6.3 as a whole and **not** to simplify the arrangement of the disk and flange of the device. This last consideration would be tainted by an unallowable *ex-post facto* approach.

The device of E6.3 is composed of a number of elements such as the end plate (4), the tubular body (3), the disk (2), the flange (1) and the nuts (5). These elements are necessarily and therefore implicitly connected and comprise several design details that can be varied (e.g. their shape, the distribution and type of openings in the disk and tubular body, etc.).

The skilled person faced with the problem of simplifying the device shown in E6.3 (see its upper figure, reproduced below) has different alternatives for solving the problem by modifying either the design

of each part (to simplify them individually) or the connections between them. This last possibility **not being limited** to the relationship between the disk (2) and the flange (1). If the skilled person were to take into consideration the connections when trying to address the posed problem, they could also envisage making the end plate (4) integral with the tubular body (3), or the tubular body (3) integral with the flange (1), or making these three elements integral.



Furthermore, making the disk and flange of E6.3 integral would mean that the same resulting ensemble as shown in the document should be produced. As the respondents argued, the upper figure of E6.3 does not show any open spaces at the connection between disk and flange. Consequently, making the disk (2) integrally with the flange (1) would imply producing a continuous connection between the two parts of the ensemble to imitate the relative positions shown in E6.3.

This would have technical implications for the device of E6.3 since the disk (2) and flange (1) of the latter are connected by spot welding - as acknowledged by the

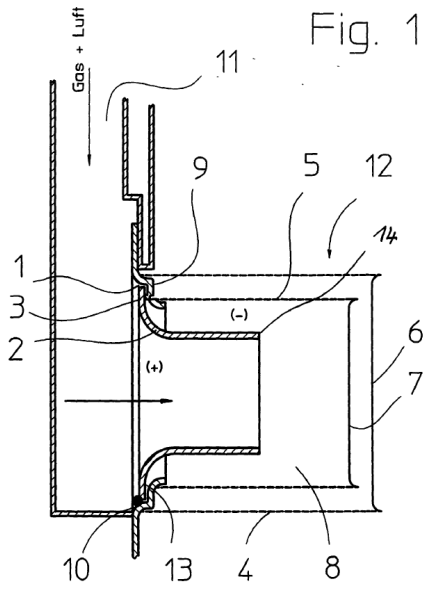
respondents - which is necessarily a more flexible type of connection.

The argument that the skilled person would know how to compensate for any modifications by adapting the design of the openings as disclosed in paragraph [0016] of the patent specification cannot be accepted since the contested patent does not form part of the prior art by definition. In the same way, the lack of teaching in the prior art which would enable the skilled person to modify a piece of prior art in the direction of the invention does not necessarily mean that the invention is insufficiently disclosed in the contested patent but rather points in the direction of a non-obvious modification.

In view of the above, the skilled person would not contemplate the necessary modifications of the device shown in E6.3 without a prompt in this direction.

8.1.6 Combination with E9

E9 does not disclose a single embodiment where a disk is made integral with a flange. Claim 1 of E9 discloses that a disk can be used as an alternative to a funnel-shaped pipe (No. 2 in the drawing represented below). However, the only embodiment of E9 disclosing an integral construction similar to the one defined in claim 1 relates to that of a funnel-shaped pipe (2) and its surrounding flange (13) (see Figures 1 and 2, the former reproduced below). No explicit disclosure is provided in E9 that a similar construction can be provided when the alternative "disk" is used.



Furthermore, E9 discusses the importance of arranging free spaces ("Kurzschlussöffnungen" 1) around the head of the tubular body to compensate for pressure waves during work (see [0015] and [0016]). This suggests against closing the head of the burner in a more complete way as would be the case when replacing the funnel-shaped pipe of Figures 1 and 2 comprising a large central opening with a disk made integral with a flange.

The respondents proposed during the oral proceedings as a starting point the embodiment in which the flange (13) of the funnel-shaped pipe (2) is provided with further openings according to claim 4. This does not result in the presence of a disk, let alone a disk comparable to that of E6.3. Moreover, the argument of the respondents implies that the skilled person should first consider a combination of the embodiments of Figure 1 and claim 4 and then think of applying this teaching to the device of E6.3. This adds a further step to the logic chain, weakening the objection. It is noted for the sake of completeness that replacing the funnel-shaped pipe (2) - comprising its surrounding

flange (13) - with the disk ("Drosselscheibe") of claim 1 - which is not disclosed in combination with a flange - would not result in the provision of a flange within the meaning of claim 1.

Finally, E9 does not disclose a disk made integrally with a flange and, logically, it does not discuss any advantage linked to this type of construction. Therefore, the skilled person would not find any motivation in E9 to modify the premixed burner of the Eco-Hometec prior use in the direction of feature 14.

8.1.7 Combination with D1.3

D1.3 does not disclose any advantage to a disk made integrally with a flange either. The only element which corresponds to a disk with holes as in E6.3 is the further diffuser (25) disclosed in Figure 16, but - as disclosed in Figure 11 and 17 and in column 6, lines 8 to 11 - this further diffuser (25) is not made integrally with a flange.

Furthermore, the construction of the premixed burner - based on the provision of a toroidal double-walled cylinder where fuel is injected between the nested cylinder walls - is different from the premixed burner of E6.3 - consisting of a hollow cylinder within which fuel is injected into its whole volume.

The skilled person is aware that the behaviour of both devices is different with regard to vibrations and pressure waves and would not assume that a solution disclosed in D1.3 is suitable for the premixed burner comprising the features disclosed in E6.3.

Consequently, the skilled person would not find any motivation in D1.3 to modify the premixed burner of E6.3 in the manner claimed.

8.1.8 Combination with E1.3

The appellant was the only party arguing with respect to a possible line of attack starting from the Eco-Hometec prior use (E6.3) and combining it with E1.3.

This line of attack has not been raised or pursued by the respondents in appeal and was not part of the contested decision.

Consequently, the line of attack does not form part of the proceedings, and the Board need not address its merits.

8.1.9 Public availability of the Eco-Hometec prior use - request under Article 131 EPC and Rule 120(2) EPC

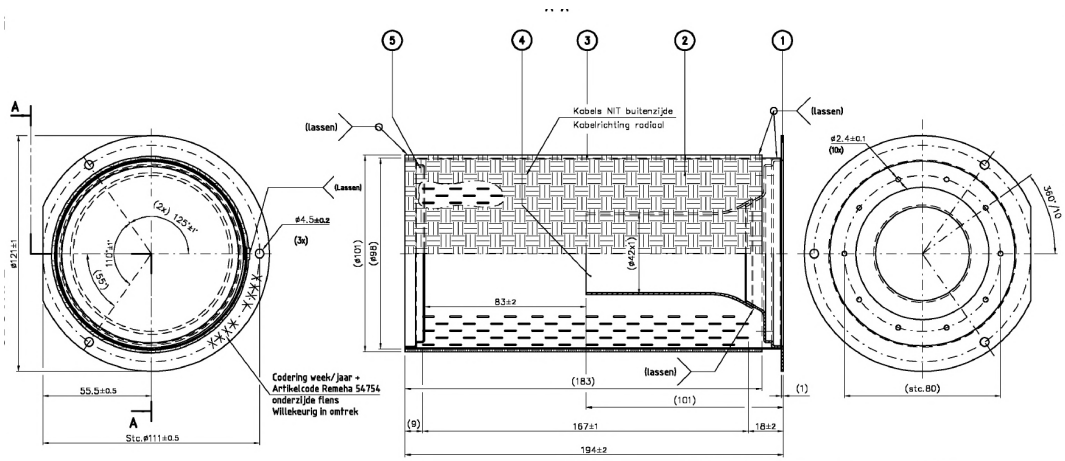
Since the objection based on the Eco-Hometec prior use does not succeed on substantive grounds, there is no need to discuss whether the decision of the opposition division to consider it part of the prior art should be revised, as requested by the appellant.

For this reason, the appellant's request to issue a request under Article 131 EPC and Rule 120(2) EPC to a competent Dutch court to re-examine Mr Stapenséa under oath does not need to be addressed since the result of the further hearing would have no bearing on the decision to be taken in this appeal.

8.2 Remeha alleged public prior use (E13) as the closest prior art

The objection based on the device shown in E13 (corresponding to the Remeha alleged prior use) cannot succeed since it relates to a device which lies even further away from the invention than the premixed burner shown in E6.3 discussed above.

Firstly, the fact that several smaller openings are disclosed around the large central opening in the right-hand figures of E13 (reproduced below) does not mean that the skilled person would recognise the header on the right of the premixed burner as a disk within the meaning of the contested patent since the shape corresponds to a different geometrical figure, namely a ring or annulus.



Secondly, the element (4) of E13 corresponds to an internal distributor excluded according to feature 12 ("*the premixed burner does not comprise an internal distributor for distributing the air-gas mixture into the burner*"). This is the case because the element (4) is arranged clearly within the tubular body (being thus "internal") and plays a role in the air-gas mixture distribution. The role in distributing the air-gas mixture is confirmed by the respondents' submission

that the element (4) enabled the pressure waves to be balanced within the tubular body. Since these pressure waves have an effect on how the air-gas mixture is distributed within the tubular body, the element (4) inevitably has an influence on the distribution of the air-gas mixture and is *de facto* a "distributor".

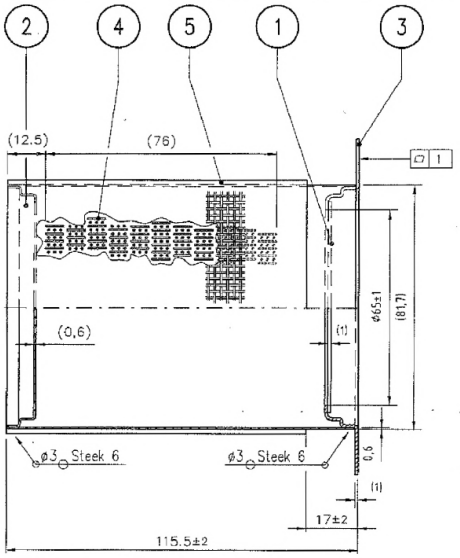
The respondents argued that the same reasoning as for the Eco-Hometec prior use applied here and that the subject-matter of claim 1 consequently lacked an inventive step.

However, the number of necessary modifications going beyond those when starting from the Eco-Hometec prior use and the lack of a plausible motivation why the skilled person would contemplate them (e.g. why excise the internal distributor (4)) render the objection unpersuasive.

In view of the above, there is no need to discuss whether the alleged public prior use has been sufficiently substantiated.

8.3 Giannoni alleged public prior use as the closest prior art

As the respondents acknowledged, the premixed burner shown in E10 and E14 (supporting the Giannoni alleged public prior use) basically corresponds to the device shown in E6.3. More in particular, the disk and flange of the premixed burner shown in E10 and E14 (left-hand figure reproduced below) are also separate elements connected to each other by spot welding.



Consequently, the same considerations as explained in point8.1 above apply here.

8.4 E1.3 as the closest prior art

E1.3 concerns a tubular premixed burner, as in the Eco-Hometec alleged public prior use with the provision of a perforated disk (27) (see Figures 2 and 4 and column 4, lines 16 to 18), but lies further away from the subject-matter of claim 1 since no flange as defined in feature 11 ("*a flange with circumferential lowering for coupling with the inlet of the tubular body is connected to the perforated disk*") is shown.

In any case, the same reasoning as in point 8.1 above would apply if the skilled person envisaged providing the perforated disk (27) with a flange comprising a circumferential lowering for coupling with the inlet of the tubular body in replacement of the "coupling mechanism" disclosed in E1.3.

Consequently, the skilled person would not envisage modifying the device of E1.3 in the direction of the

distinguishing feature 14 ("*the at least one disk is made integrally with the flange*").

In view of this, there is no need to discuss whether this objection should be excluded from the appeal proceedings under Article 12(4) RPBA 2007 or whether there are further distinguishing features.

8.5 E9 as the closest prior art

The respondents put forward that E9 disclosed a perforated disk made integrally with a flange.

This is not the case for the reasons explained in point 8.1.6 above for E9. The objection thus fails for this reason alone.

Furthermore, E8.3 - which is proposed by the respondents as the document which would motivate the skilled person to modify E9 by removing the internal distributor - does not disclose any premixed burner without an internal distributor within the meaning of the distinguishing feature 12. The embodiment shown in Figure 1 of E8.3 - taken by the respondents as the relevant one in this respect and which relates to the prior art considered in E8.3 - includes the kind of internal distributor to be excluded according to feature 12 (see Figure 1, internal distributor extending from the funnel-shaped end piece and supplying fuel which directly impinges onto the internal surface of the tubular body). The embodiment of Figure 2 of E8.3 includes an internal distributor (22) as acknowledged by respondent 3 in its reply to the statement setting out the grounds of appeal.

As the objection is not persuasive, there is no need to discuss whether it should be excluded from the appeal proceedings under Article 12(4) RPBA 2007 or whether there are further distinguishing features.

8.6 E8.3 as the closest prior art

Contrary to what was argued by the respondents, the embodiment of Figure 1 in E8.3 **does not show any disk** at the inlet fixed to the head of the tubular body but a funnel-shaped pipe which forms the first part of an **internal distributor** (12) (see Figure 1) which is **excluded** by feature 12 of claim 1 of the main request.

The embodiment of the disk corresponding to Figure 4 of the patent specification is not comparable to the above-mentioned element of E8.3, and the skilled person would not consider the latter a disk within the meaning of claim 1.

Furthermore, replacing the funnel-shaped portion of the internal distributor (12) with a disk provided with through openings or holes according to feature 8 would have an immediate impact on the fuel supply and distribution. The skilled person would not undertake such a modification without a clear motivation for doing so, something which is not provided by the mere disclosure of such a disk in other premixed burners with a completely different design, such as in the proposed documents D1.3 - where no disk is shown - E1.3, E5.3, E9 - where merely a disk of unknown design is mentioned in claim 1 - E11, E12 or any of the three alleged public prior uses.

Since the objection is not persuasive, there is no need to discuss whether it should be excluded from the

appeal proceedings under Article 12(4) RPBA 2007 or whether there are further distinguishing features.

8.7 E5.3 as the closest prior art

E5.3 discloses a tubular premixed burner comprising a disk (86) provided with through openings or holes. In E5.3, the disk with holes (86) is not provided with a flange with circumferential lowering for coupling with the inlet of the tubular body, let alone made integrally with the disk. The respondents agreed with this.

Thus, E5.3 is a starting point comparable to E1.3, and the objection starting from it must fail for the reasons explained in point 8.4 above.

Consequently, there is no need to discuss whether the objection should be excluded from the appeal proceedings under Article 12(4) RPBA 2007 or whether there are further distinguishing features.

9. Main request, amended description

The appellant filed an amended description adapted to the main request with the submissions dated 27 March 2024.

The respondents had no objection against the amended description.

The Board has no objection of its own either against the amended description.

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 in the following version:

   Claims:
   No. 1 to 8 according to the main request submitted with the letter dated 14 February 2018

   Description:
   Paragraphs 1 to 21 filed on 27 March 2024

   Drawings:
   Figures 1 to 5 of the patent specification

The Registrar: The Chairman:

C. Spira C. Herberhold

Decision electronically authenticated