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Datasheet for the decision of 16 June 2023

Case Number: T 1000/20 - 3.2.01

Application Number: 09170439.5

Publication Number: 2168796

IPC: B60H1/32

Language of the proceedings: EN

Title of invention:
Air conditioning system for a car

Patent Proprietor:
Valeo Klimasysteme GmbH

Opponent:
MAHLE Behr GmbH & Co. KG

Headword:

Relevant legal provisions:
EPC Art. 56, 54

Keyword:
main request (novelty: no)
auxiliary request 3 (inventive step: yes)

Decisions cited:

Catchword:

Europäisches Patentamt
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Beschwerdekammern

Boards of Appeal

Chambres de recours

Boards of Appeal of the
European Patent Office
Richard-Reitzner-Allee 8
85540 Haar
GERMANY
Tel. +49 (0)89 2399-0
Fax +49 (0)89 2399-4465

Case Number: T 1000/20 - 3.2.01

D E C I S I O N
of Technical Board of Appeal 3.2.01
of 16 June 2023

Appellant: (Patent Proprietor)	Valeo Klimasysteme GmbH Werner-von-Siemens-Strasse 6 96476 Rodach (DE)
Representative:	Croonenbroek, Thomas Jakob Innovincia 11, avenue des Tilleuls 74200 Thonon-les-Bains (FR)
Respondent: (Opponent)	MAHLE Behr GmbH & Co. KG Mauserstr. 3 70469 Stuttgart (DE)
Representative:	Grauel, Andreas Grauel IP Patentanwaltskanzlei Wartbergstrasse 14 70191 Stuttgart (DE)
Decision under appeal:	**Decision of the Opposition Division of the European Patent Office posted on 23 April 2020 revoking European patent No. 2168796 pursuant to Article 101(3)(b) EPC.**

Composition of the Board:

Chairman	H. Geuss
Members:	C. Narcisi
	S. Fernández de Córdoba

Summary of Facts and Submissions

I. The European patent No. 2 168 796 was revoked by the decision of the Opposition Division posted on 23 April 2020. Against this decision an appeal was lodged by the Patentee in due form and in due time pursuant to Article 108 EPC.

II. The following documents are cited in this decision:

EP-A (published patent application of the contested patent);
EP-B (published patent specification of the contested patent);
D3 (EP-A2-1 674 310);
D5 (US-A1-2006/0053818).

III. Oral proceedings were held on 16 June 2023. The Appellant (Patent Proprietor) requested that the decision under appeal be set aside and the patent be maintained as granted (main request) or, in the alternative, that the patent be maintained in amended form according to auxiliary request III filed with the statement of grounds of appeal on 21 August 2020.

IV. Granted claim 1 (main request) reads as follows:

"Air conditioning system (10) for a car comprising a housing (12), at least one evaporator (14) and an outlet path for condensation water that condenses on the evaporator (14), wherein the outlet path consists

of a condensation water collection area (16) and a condensation water removal section (18),
the condensation water collection area (16) is an collecting bowl (20),
the collecting bowl (20) is limited on one side by a collection wall (22),
the condensation water removal section (18) comprises at least one condensation water removal canal (40) extending from the collecting bowl (20), beneath the collection wall (22) or through at least one opening (39) arranged within the collection wall (22), to at least one water outlet opening (42),
characterized in that the collection wall (22) has two openings (39) that are arranged in the y-direction of the vehicle and in that the condensation water removal canal (40) comprises two coalescing branches extending from the openings (39) to the one water outlet opening (42)".

Claim 1 of auxiliary request 3 differs from granted claim 1 in that the wording "arranged within the collection wall (22), to at least one water outlet opening (42)" is replaced by "arranged within the collection wall (22), to at least one water outlet opening (42), the air conditioning system (10) further comprising an external water collection area (50), and an external water canal (52,54)", and in that the wording "extending from the openings (39) to the one water outlet opening (42)" is replaced by "extending from the openings (39) to the one water outlet opening (42) and the condensation water removal canal (40) and the external water canal (52, 54) flow into at least the water outlet opening (42)".

V. The Appellant's (Patentee's) arguments may be summarized as follows:

The subject matter of claim 1 (main request) is new over D5 since this document does not disclose feature M4 ("the collecting bowl is limited on one side by a collection wall"), M7 ("the collection wall (22) has two openings (39)"), M8 ("that are arranged in the y-direction of the vehicle"), M9 ("and in that the condensation water removal canal (40) comprises two coalescing branches"), M10 ("extending from the openings (39) to the one water outlet opening (42)").

First, constructional element 112 in figure 3 of D5 does not constitute a collection wall within the meaning of claim 1 and of the contested patent, given that wall 112 is intended to collect rainwater (D5, [0029]) and not condensed water, the incoming air flow also preventing condensed water to reach the left hand portion of wall 112 (of drain pan 112) and condensed water dropping only on the area of the drain pan 112 situated directly underneath the evaporator 131.

Further, said left hand portion of wall 112, when regarded as limiting the collecting bowl on one side (feature M4), cannot have two openings (feature M7) (as considered in the appealed decision), for it limits the collection bowl on "one side" (i.e. said left hand side) and the second opening 113 is located on the opposite side of the collecting bowl (not on its left hand side). In addition, it does not appear from the wording of claim 1 that the "collection wall" is part of the "collecting bowl", claim 1 only stating that "the collecting bowl is limited on one side by a collection wall". Thus claim 1, apparently excludes the situation wherein the collection wall forms a portion of the collecting bowl.

Moreover, D5 actually discloses two collecting bowls (each of them having only one opening), given that the drain pan 112 is divided by a partition wall 140 in two portions, the partition wall being disposed between a lower surface of the evaporator 131 and the drain pan to separate an air upstream side from an air downstream side (such as to prevent incoming airflow to bypass the evaporator).

Consequently, feature M4 being not disclosed in D5, features M7, M9, M10 being directly linked to and based on feature M4 are also not derivable from D5.

Finally, feature M8 is likewise not derivable from D5 and further characterizes the air conditioning system, thus constituting a limiting feature of the same. Indeed, feature M8 must be read in the context of claim 1 and implies that said two openings are aligned in the y-direction of the vehicle, thus ensuring collected water being always drained, also upon inclination of the vehicle (see EP-B, [0013], [0060]).

The subject-matter of claim 1 of auxiliary request III involves an inventive step over D5 in view of D3. In effect, according to D5 external water is discharged out of the vehicle through the same drain arrangement as described for condensed water (see D5, figures 1 and 3, [0029]). Therefore, the skilled person would not form a separate passage for external water (see e.g. passage 192 in figure 2 of D3), as this would increase the size of the air conditioning system and its overall height, and require additional space in the vehicle.

VI. The Respondent’s (Opponent’s) arguments may be summarized as follows:

The subject-matter of claim 1 (main request) is not new over D5, as D5 discloses the disputed features M4, M7, M8, M9, M10.
In particular, feature M8 is not clear, given that any two dimensional opening in the drain pan 112 (see D5, figure 3) also extends in y-direction, and this feature does not specify that the two openings are aligned on one and the same line pointing in the y-direction. Moreover, this feature does not constitute a limiting feature of the claimed subject-matter, which is directed only to the air conditioning system and does not comprise the vehicle.

Feature M4 is likewise disclosed in D5 (as correctly reasoned in the appealed decision) (and consequently also features M7, M9, M10), because collection wall 112 is clearly limiting the drain pan on one side and claim 1 does not exclude that said collection wall 112 may also extend to the opposite side of the drain pan.

Claim 1 of auxiliary request III is not inventive over D5 in view of D3. In particular, the skilled person would provide a specific, additional passage for draining external water if necessary, in particular if due to the specific configuration of the air conditioning system (e.g. if the fluid path joining the external air inlet 122 with the collection wall 112 did not have an appropriate inclination, taking also into account that figure 1 in D5 is only a schematic drawing), it would not be possible to use for external water drainage the same drain passage used for condensed water.

Reasons for the Decision

1. The appeal is admissible.

2. The subject-matter of claim 1 (main request) lacks novelty over D5 (Article 54 EPC), for the disputed features M4 ("the collecting bowl is limited on one side by a collection wall"), M7 ("the collection wall (22) has two openings (39)"), M8 ("that are arranged in the y-direction of the vehicle"), M9 ("and in that the condensation water removal canal (40) comprises two coalescing branches"), M10 ("extending from the openings (39) to the one water outlet opening (42)") are also known therefrom.

Starting with feature M4, it is noted first that its wording clearly encompasses the situation wherein said collection wall constitutes at least a portion of the collecting bowl's external wall. Indeed, there is no disclosure in EP-B that said collection wall is separate and distinct from said collecting bowl, EP-B stating in particular that "the collecting bowl is bordered by a collection wall" (EP-B, paragraph [0009]), which is essentially equivalent to feature M4.

Therefore it is considered (in accord with the appealed decision, see page 6, point 17.7) that said collection wall 112 in D5 also includes two openings 113 (see D5, figure 3), given that it obviously extends from left to right in figure 3 of D5 and that this is likewise not excluded by the wording of feature M4. These two openings 113 (D5, figure 3) form a condensation water removal canal (see feature M7), which comprises two branches 114 (D5, figure 3) (see feature M9) extending

from the openings 113 to the one water outlet opening 115 (see feature M10).

Further (contrary to the Appellant's view), the entire left portion of collection wall 112 collects condensed water (notwithstanding the fact that it likewise collects external water entering the outside air inlet 122 in figure 1, see D5, [0029]), for the air stream entering the air conditioning case 111 from the left (upstream side in relation to the evaporator 131 in figure 3) will lead to water droplets (carried by the airstream) impinging both on the left and right side of the collection wall 112, i.e. upstream and downstream of the evaporator 131, as indicated by broken arrows in figures 2 and 3, it being stated in D5 that "condensed water in the air upstream side space "a".. flows along the incline surface of the drain pan 112" (see explanation in paragraph [0043], which applies to both to figure 2 and 3). Moreover, this effect is enhanced by incoming air being prevented by the partition wall 140a from bypassing the evaporator, thus redirecting air flow away from the partition wall 140a, leading to further air mixing, increased pressure and momentum being imparted to the water droplets in all directions.

Finally, figure of 3 of D5 also discloses one single drain pan 112 or collecting bowl (contrary to the Appellant's view), thus being in this respect entirely equivalent to the collecting bowl of claim 1. Indeed, collection wall 112 is a single, integral constructional unit, forming the external delimiting wall of the drain pan 112 and properly performing its functions only when considered as a single unit (since the entire drain pan 112 is necessary to drain

condensed water upstream as well as downstream of the evaporator).

It is therefore concluded that features M4, M7, M9, M10 are disclosed in D5.

Concerning feature M8 the Board concurs with the Respondent's view that this does not constitute a feature limiting in any way the subject-matter of claim 1. In particular, claim 1 is directed to an air conditioning system for a car, the car however not being part of the claimed subject-matter. Consequently, as it is not possible to infer the y-direction of the vehicle from the air conditioning system considered in isolation, feature M8 (in conjunction with the remaining features of claim 1) does not define any orientation of said openings, thus being a non-limiting feature not contributing to novelty of the subject-matter of claim 1.

For the above reasons it is concluded that the subject-matter of claim 1 (main request) lacks novelty over D5.

3. The subject-matter of claim 1 of auxiliary request III is not rendered obvious for the skilled person starting from D5 in view of D3 (Article 56 EPC).

The added features stating "further comprising an external water collection area (50), and an external water canal (52,54)", and "the condensation water removal canal (40) and the external water canal (52, 54) flow into at least the water outlet opening (42)"

undisputedly distinguish the claimed subject-matter from the disclosure of D5.
The Board notes that said features are disclosed or at least suggested in D3 (see e.g. figure 2, reference signs 172, 192, 164; paragraph [0028]-[0030]), however the skilled person would have no incentives or motivations to implement these technical measures in the air conditioning system of D5, given that D5 clearly teaches to use one and the same flow passage and water removal canal for draining both external and condensation water.

Indeed, as discussed hereinbefore, D5 discloses that collection wall 112 of drain pan 112 is also used to remove "rainwater entering the air conditioning case 111 through the outside air inlet 122" and "condensed water", which "are discharged out of the vehicle through the drain arrangement" (D5, paragraph [0029]; see figures 1 and 3).

The skilled person, in the absence of valid reasons which cannot be inferred from D5, would not modify the arrangement and configuration of the air conditioning system according to D5, providing a clear technical teaching minimizing the space and volume occupied by the air conditioning's system housing.

No further objections were submitted, as was explicitly stated by the Respondent during oral proceedings.

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 with the claims 1 to 11 according to the auxiliary request III filed with the statement of grounds of appeal and a description to be adapted where appropriate.

The Registrar: The Chairman:

A. Voyé H. Geuss

Decision electronically authenticated