Internal distribution code:

(A) [-] Publication in OJ
(B) [-] To Chairmen and Members
(C) [-] To Chairmen
(D) [X] No distribution

Datasheet for the decision of 27 June 2025

Case Number: T 0555/23 - 3.4.02

Application Number: 14887136.1

Publication Number: 3111273

IPC: G02C7/02

Language of the proceedings: EN

Title of invention:
A METHOD OF OPTIMISING GEOMETRY OF A SEMI-FINISHED OPHTHALMIC LENS IN A SET OF SEMI-FINISHED OPHTHALMIC LENSES

Patent Proprietor:
Carl Zeiss Vision Inc.
Carl Zeiss Vision International GmbH

Opponent:
LUMI IP GmbH

Relevant legal provisions:
EPC Art. 83, 100(b)

Keyword:
Sufficiency of disclosure - completeness of disclosure (no)

Europäisches Patentamt
European Patent Office
Office européen des brevets

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

Case Number: T 0555/23 - 3.4.02

D E C I S I O N
of Technical Board of Appeal 3.4.02
of 27 June 2025

Appellant: (Patent Proprietor 1)	Carl Zeiss Vision Inc. 12121 Scripps Summit Drive, Suite 400 San Diego, CA 92131 (US)
Appellant: (Patent Proprietor 2)	Carl Zeiss Vision International GmbH Turnstrasse 27 73430 Aalen (DE)
Representative:	Glawe, Delfs, Moll Partnerschaft mbB Hopfenmarkt 33 20457 Hamburg (DE)
Appellant: (Opponent)	LUMI IP GmbH Rodtmattstrasse 45 3014 Bern (CH)
Representative:	Vesterinen, Jussi Tapio LUMI IP GmbH Rodtmattstrasse 45 3014 Bern (CH)
Decision under appeal:	**Interlocutory decision of the Opposition Division of the European Patent Office posted on 20 January 2023 concerning maintenance of the European Patent No. 3111273 in amended form.**

Composition of the Board:

Chairman	R. Bekkering
Members:	A. Hornung
	G. Decker

Summary of Facts and Submissions

I. Both the opponent and the patentees appealed against the interlocutory decision of the opposition division maintaining European patent No. 3111273 in amended form.

Opposition had been filed against the patent as a whole and based on the grounds for opposition under Article 100(a) EPC, together with Articles 54(1) and 56 EPC, Article 100(b) EPC, together with Article 83 EPC, and Article 100(c) EPC, together with Article 123(2) EPC.

The opposition division had found that the patent as amended according to auxiliary request 3* then on file and the invention to which it related met the requirements of the EPC.

II. Oral proceedings before the board were held on 27 June 2025.

III. The patent proprietors (referred to as the "patentee" below) requested as a main request that the decision under appeal be set aside and that the patent be maintained as granted (i.e. that the opposition be rejected) or, alternatively, that the decision under appeal be set aside and that the patent be maintained in amended form on the basis of the claims according to auxiliary requests 1 or 2 filed with the letter dated 18 October 2021, or auxiliary request 2a filed with the letter dated 10 October 2022, or auxiliary requests 3, 4 or 5 filed with the letter dated 18 October 2021, or auxiliary requests 0*, 1*, 2*, 2a*, 3*, 4* and 5* filed with the letter dated 7 November 2022. The request to maintain the patent in amended form on the basis of the claims according to auxiliary request 3*

corresponds to the request that the appeal of the opponent be dismissed.

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

V. The patentee's written submissions are designated P1 and P2 as follows:
P1: statement of grounds of appeal, filed with the letter dated 30 May 2023,
P2: letter dated 12 October 2023 (reply to the opponent's statement of grounds of appeal).

The opponent's written submissions are designated O1 to O3 as follows:
O1: statement of grounds of appeal, filed with the letter dated 26 May 2023,
O2: letter dated 4 October 2023 (reply to the patentee's statement of grounds of appeal),
O3: letter dated 21 May 2025.

VI. Claim 1 according to the patentee's main request reads as follows (the features of claim 1 are preceded by the numbering **S10** to **S60**, as defined in the appealed decision, point I.13):

"**S10** A method (44) of optimising geometry of at least one semi-finished ophthalmic lens in a set of semi-finished ophthalmic lenses having a designated lens material, each of the semi-finished ophthalmic lenses in the set having an initially determined geometry including one of a plurality of base curves determined to allow manufacture of finished ophthalmic lenses for ophthalmic lens prescriptions, the method (44) including:

S20 electronically providing (46) prescription data indicative of ophthalmic lens prescriptions of a plurality of ophthalmic lens wearers;

S30 electronically determining (48) a proportion of ones of the ophthalmic lens prescriptions that correspond to each one of the base curves of the semi-finished ophthalmic lenses in the set of semi-finished ophthalmic lenses;

S40 electronically providing (50) manufacturing data indicative of constraints affecting manufacture of the set of semi-finished ophthalmic lenses, the constraints including at least

S41 volume of designated lens material of each of the semi-finished ophthalmic lenses in the set, as well as one or more of:

S42 a cost per different geometry of ones of the base curves of each of the semi-finished ophthalmic lenses in the set;

S43 a cost of the designated lens material; and

S44 a minimum thickness of the semi-finished ophthalmic lenses;

S50 electronically determining (52) one or more final geometries of the at least one semi-finished ophthalmic lens in the set by optimising the initially determined geometry of each of the semi-finished ophthalmic lenses in the set using the proportion of said ones of the ophthalmic lens prescriptions that correspond to each one of the base curves of the semi-finished ophthalmic lenses in the set and the constraints,

S51 the one or more optimised final geometries of lenses are smaller in one or more of the parameters thickness, diameter, front curve radius, and back curve radius, per base curve to minimise use of lens material; and

S60 electronically outputting (54) data indicative of the one or more final geometries".

VII. Claim 1 according to auxiliary request 1 differs from claim 1 of the main request in that features **S40** to **S44** have been amended to read now as follows:

"electronically providing (50) manufacturing data indicative of constraints affecting manufacture of the set of semi-finished ophthalmic lenses, the constraints including at least

volume of designated lens material of each of the semi-finished ophthalmic lenses in the set, ~~as well as one or more of:~~

a cost per different geometry of ones of the base curves of each of the semi-finished ophthalmic lenses in the set~~;~~, as well as one or more of:

a cost of the designated lens material; and

a minimum thickness of the semi-finished ophthalmic lenses".

VIII. Claim 1 according to auxiliary request 2 differs from claim 1 of auxiliary request 1 in that the following feature has been added after feature **S44**:

"wherein the cost per different geometry of ones of the base curves includes a cost per different diameter of ones

of the base curves of each of the semi-finished ophthalmic lenses in the set and/or a cost per different back curve of each of the semi-finished ophthalmic lenses in the set".

IX. Claim 1 according to auxiliary request 2a differs from claim 1 of the main request in that features **S42** and **S44** have been deleted so that features **S40** to **S44** now read as follows:

"electronically providing (50) manufacturing data indicative of constraints affecting manufacture of the set of semi-finished ophthalmic lenses, the constraints including at least

volume of designated lens material of each of the semi-finished ophthalmic lenses in the set, as well as ~~one or more of:~~

~~a cost per different geometry of ones of the base curves of each of the semi-finished ophthalmic lenses in the set;~~

a cost of the designated lens material~~; and~~

~~a minimum thickness of the semi-finished ophthalmic lenses~~".

X. Claim 1 according to auxiliary request 3 differs from claim 1 of the main request in that the following features **S52** and **S53** have been added after feature **S51**:

"**S52** determining a proportion of ones of the ophthalmic lens prescriptions that correspond to each one of the one or more final geometries of the at least one semi-finished ophthalmic lens in the set;

S53 iteratively optimising the one or more final geometries of the at least one semi-finished ophthalmic lens in the set using the proportion of said ones of the ophthalmic lens prescriptions that correspond to each one of the one or more final geometries of the at least one semi-finished ophthalmic lens in the set".

XI. Claim 1 according to auxiliary request 4 differs from claim 1 of auxiliary request 1 in that the features **S52** and **S53** have been added after feature **S51**.

XII. Claim 1 according to auxiliary request 5 differs from claim 1 of auxiliary request 2 in that the features **S52** and **S53** have been added after feature **S51**.

XIII. The auxiliary requests with an asterisk, i.e. 0*, 1*, 2*, 2a*, 3*, 4* and 5*, differ from the corresponding requests without an asterisk, i.e. main request and auxiliary requests 1, 2, 2a, 3, 4 and 5, respectively, only by the addition of the expression "on a server" in claim 10 (auxiliary requests 0*, 1*, 2a*), claim 9 (auxiliary request 2*), claim 8 (auxiliary requests 3*, 4*) or claim 7 (auxiliary request 5*).

Reasons for the Decision

1. Main request - sufficiency of disclosure

The patent does not disclose the invention according to claim 1 in a manner sufficiently clear and complete for it to be carried out by a person skilled in the art (Article 100(b) EPC).

1.1 According to the method step **S50** of claim 1, final geometries of the semi-finished ophthalmic lenses are

determined by optimising the initially determined lens geometries using the proportion of the ophthalmic lens prescriptions defined in step **S30** and the manufacturing constraints defined in steps **S41** to **S44**. In step **S51**, the optimised final geometries of lenses are defined to be smaller in thickness, diameter, front and/or back curve radius so as to minimise use of lens material.

As argued by the opponent in writing (O1, paragraph bridging pages 12 and 13, and page 13, fourth full paragraph; O3, page 2, first paragraph) and orally during the oral proceedings before the board, neither claim 1 nor the patent description provides any information about *how* the two parameters, namely "proportion of lens prescriptions" and "manufacturing constraints", are used to optimise the initial lens geometries.

As the opponent further argued at the oral proceedings, since the patent did not disclose any specific example of an algorithm of how to optimise the parameters, the skilled person was unable to reproduce the invention. Indeed, when attempting to carry out the invention by reading the patent, the skilled person was confronted with the problem that the optimisation step was simply described as a "black box".

The opponent also noted as an additional argument in the context of claim 1 that, even though optimised final geometries had already been obtained via the method steps of claim 1, dependent claims 2 and 3 defined an additional optimisation of these final geometries. As the patent did not clearly and completely disclose the optimisation of the initial geometries, it was not possible to understand or even make sense of an optimisation of optimised final geometries, as defined in claims 2 and 3.

The board concurs with the opponent's views: since the patent does not disclose *how* the "proportion of lens prescriptions" and "manufacturing constraints" are used to optimise the initial lens geometries, it does not disclose the invention in a manner sufficiently clear and complete for it to be carried out by a person skilled in the art.

1.2 Patentee's arguments in favour of sufficiency of disclosure

1.2.1 During the oral proceedings, the patentee argued that paragraph [0032] in the patent (paragraph [0036] in the patent application) disclosed how the optimisation is carried out. It also referred to paragraphs [0013], [0019], [0020] and [0031], quoting various passages and stating in general terms that these paragraphs contained ample disclosure of how to carry out the optimisation.

1.2.2 In writing, the patentee set out reasons why certain arguments of the opponent regarding the alleged insufficiency of disclosure were invalid.

In particular, the patentee explained why there was no discrepancy between claim 1 and figure 3 of the patent, contrary to the opponent's view (P2, point II.2.2). Furthermore, it explained that even if the features disclosed in paragraph [0032] of the patent were essential features, "this objection relates to the clarity of the claim rather than to Art. 83 EPC" (P2, page 9, third paragraph). Finally, the patentee addressed the opponent's objection that the patent provided "only a very specific example in paragraph [0036] and does not enable a person of ordinary skill to carry out the invention over the whole range covered by claim 1" (P2, page 9, penultimate paragraph).

1.3 The board is not convinced by the patentee's arguments for the following reasons.

1.3.1 The passage in paragraph [0032] emphasised by the patentee reads as follows: "In any event, the processing module 16 further includes an optimising module 18 arranged to determine one or more final geometries of the at least one semi-finished ophthalmic lens in the set by optimising the geometry of a given set of potential semi-finished ophthalmic lenses such that overall volume of material required has been minimized and all input initially determined geometry of each of the semi-finished ophthalmic lenses fit within the optimized geometries of the potential semi-finished ophthalmic lenses, subject to all input constraints described herein as manufacturing constraints".

This passage essentially does no more than paraphrase the wording of claim 1, in particular features **S50** and **S51**, without adding any new relevant information about how the optimisation is executed. Indeed, the skilled person is merely taught to use an "optimising module 18" (a "black box") to achieve a specific result: reducing the volume of lens material). The skilled person is taught *what* to do, but not *how* to do it.

1.3.2 The further arguments of the patentee, referred to in point 1.2.2 above, and dealing with the opponent's further arguments, are not relevant to the question that led the board to conclude that there was insufficient disclosure of *how* to optimise the initial lens geometries.

2. Auxiliary requests - sufficiency of disclosure

The patent does not disclose the invention according to claim 1 of any of the auxiliary requests on file in a

manner sufficiently clear and complete for it to be carried out by a person skilled in the art (Article 83 EPC).

2.1 The amendments of claim 1 of the auxiliary requests on file do not add any information about *how* to optimise the initial lens geometries. Therefore, the corresponding invention is insufficiently disclosed for the same reasons as the invention defined in claim 1 of the main request.

2.2 At the oral proceedings before the board, the patentee refrained from putting forward any argument in favour of sufficiency of disclosure for the auxiliary requests.

3. For the above reasons the board comes to the conclusion that none of the patentee's requests is allowable and that the patent must be revoked.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.

2. The patent is revoked.

The Registrar: The Chairman:

K. Boelicke R. Bekkering

Decision electronically authenticated