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Datasheet for the decision of 19 May 2025

Case Number: T 0949/23 - 3.2.04

Application Number: 19161036.9

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Language of the proceedings: EN

Title of invention:
RECIPROCATING COMPRESSOR

Patent Proprietor:
LG Electronics Inc.

Opponent:
Secop GmbH

Headword:

Relevant legal provisions:
EPC Art. 100(c), 76(1), 56
RPBA 2020 Art. 12(4), 12(6)

Keyword:
Grounds for opposition - subject-matter extends beyond content of earlier application (yes)
Subject-matter extends beyond content of earlier application - Auxiliary requests 1 to 13 (yes) - Auxiliary request 14 (no)
Amendment to case - exercise of discretion
Inventive step - (yes)

Decisions cited:

Catchword:

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Case Number: T 0949/23 - 3.2.04

D E C I S I O N
of Technical Board of Appeal 3.2.04
of 19 May 2025

Appellant: (Patent Proprietor)	LG Electronics Inc. 128, Yeoui-daero, Yeongdeungpo-Gu Seoul 07336 (KR)
Representative:	Ter Meer Steinmeister & Partner Patentanwälte mbB Nymphenburger Straße 4 80335 München (DE)
Appellant: (Opponent)	Secop GmbH Lise-Meitner-Straße 29 24941 Flensburg (DE)
Representative:	KLIMENT & HENHAPEL Patentanwälte OG Gonzagagasse 15/2 1010 Wien (AT)
Decision under appeal:	**Interlocutory decision of the Opposition Division of the European Patent Office posted on 20 March 2023 concerning maintenance of the European Patent No. 3514386 in amended form.**

Composition of the Board:

Chairman	A. Pieracci
Members:	G. Martin Gonzalez
	T. Bokor

Summary of Facts and Submissions

I. The appeals were filed by the proprietor and the opponent against the interlocutory decision of the opposition division to maintain the patent in amended form.

II. The opposition division held inter alia that granted claims 1, 5 and 7 (main request) extend beyond the content of the earlier application as filed, Article 100(c) and 76(1) EPC, while the claims as upheld (corresponding to auxiliary request 12 in appeal) did not contain added subject-matter, were new and involved an inventive step.

III. In preparation for oral proceedings the Board issued a communication setting out its provisional opinion on the relevant issues.

Oral proceedings before the Board were held by videoconference on 19 May 2025.

IV. The appellant proprietor requests that the decision under appeal be set aside and the patent be maintained as granted (as main request), or in the alternative that the patent be maintained in amended form according to any one of the auxiliary request 1 to 24. The auxiliary requests 1 to 18 were filed or re-filed with the proprietor’s grounds of appeal dated 28 July 2023. Auxiliary requests 19 to 24 were filed with letter dated 11 December 2023. The auxiliary request 12 corresponds to the request upheld in the impugned decision, so it is equivalent to the dismissal of the opponent’s appeal.

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

V. The relevant claims of the requests pertinent to the present decision read as follows:

(a) Main request (as granted)

1. "A reciprocating compressor (10), comprising:
- a driver (200) configured to provide a rotary force;
- a connecting rod (340) coupled to the driver (200) to convert a rotary motion to a linear motion;
- a compression unit (300) having a piston (350) connected to the connecting rod (340) to linearly reciprocate, and a cylinder (330) configured to accommodate the piston (350) and having a compression space (C) for compressing a refrigerant by the linear reciprocating motion of the piston (350);
- a suction/discharge part (411) having a refrigerant inlet (412) for supplying a refrigerant to the cylinder (330) and a refrigerant outlet (413) for discharging a refrigerant compressed in the cylinder (330), a rear surface portion (411a) of the suction/discharge part (411) being disposed to face the cylinder (330); and
- a valve assembly (420) installed at a portion of the cylinder (330) between the suction/discharge part (411) and the cylinder (330) to selectively allow a refrigerant to flow, the valve assembly (420) including a valve plate (421); a suction inlet (422a) and a discharge outlet (423a) disposed at the valve plate (421), and configured to be in communication with the compression space (C) of the cylinder (330) to guide a refrigerant flow; a suction valve (422) disposed at the valve plate (421) to selectively open the suction inlet (422a); and a discharge valve (423) disposed at the

valve plate (421) to selectively open the discharge outlet (423a); and
- a clamp (470) fixing the suction/discharge part (411) to the compression unit (300), the clamp (470) including a main body portion (471) disposed in front of the suction/discharge part (411) and a plurality of legs (473, 475, 477) extending from the main body portion (471) toward the cylinder (330), each of the plurality of legs (473, 475, 477) extending from an edge portion (471a) forming an outer circumferential surface of the main body portion (471),
characterized in that the reciprocating compressor (10) further comprises:
an elastic member (460) mounted on a front surface portion (419) of the suction/discharge part (411), the elastic member (460) being disposed to face the main body portion (471) of the clamp (470), and
one side of the elastic member (460) is supported by the suction/discharge part (411) and the other side of the elastic member (460) being supported by the clamp (470), such that the suction/discharge part (411) and the cylinder (330) are in close contact with each other by an elastic force of the elastic member (460)."

5. "The reciprocating compressor according to any one of the preceding claims, wherein the clamp (470) is formed in the shape of a trivet and mounted on the cylinder (330) by a fastener."

(b) Auxiliary request 1

Claim 1 as in the main request with the following amendments (Board's emphasis to show added features):

"...- a suction/discharge part (411) having a refrigerant inlet (412) for supplying a refrigerant to

the cylinder (330) and a refrigerant outlet (413) for discharging a refrigerant compressed in the cylinder (330), a rear surface portion (411a) of the suction/ discharge part (411) being disposed to face an opening of the cylinder (330); and..."

(c) Auxiliary request 2

Claim 1 as in the main request with the following amendments (Board's emphasis of added or deleted features):

"...- a suction/discharge part (411) having a refrigerant inlet (412) for supplying a refrigerant to the cylinder (330) and a refrigerant outlet (413) for discharging a refrigerant compressed in the cylinder (330)~~, a rear surface portion (411a) of the suction/ discharge part (411) being disposed to face the cylinder (330)~~; and
- a valve assembly (420) installed at a portion of the cylinder (330) between the suction/discharge part (411) and the cylinder (330) to selectively allow a refrigerant to flow, the valve assembly (420) including a valve plate (421); a suction inlet (422a) and a discharge outlet (423a) disposed at the valve plate (421), and configured to be in communication with the compression space (C) of the cylinder (330) to guide a refrigerant flow; a suction valve (422) disposed at the valve plate (421) to selectively open the suction inlet (422a); and a discharge valve (423) disposed at the valve plate (421) to selectively open the discharge outlet (423a);
- a first gasket (440) mounted between the suction/ discharge part (411) and the valve assembly (420) and a second gasket (450) mounted between the valve assembly (420) and the cylinder (330), wherein a rear surface

portion (411a) of the suction/discharge part (411) is disposed to face an opening of the cylinder (330) and is in contact with the first gasket (440);..."

(d) Auxiliary request 3

Claim 1 as in the main request with the following amendments (emphasis by the Board to indicate addition of features):

"...characterized in that the reciprocating compressor (10) further comprises:
- an elastic member (460) mounted on a front surface portion (419) of the suction/discharge part (411), wherein the elastic member (460) is a Belleville spring, the elastic member (460) being disposed to face the main body portion (471) of the clamp (470); and..."

(e) Auxiliary request 4

Claim 1 as in the main request with the following amendments (Board's emphasis of added features):

"...- a valve assembly (420) installed at a portion of the cylinder (330) between the suction/discharge part (411) and the cylinder (330) to selectively allow a refrigerant to flow, the valve assembly (420) including a valve plate (421); a suction inlet (422a) and a discharge outlet (423a) disposed at the valve plate (421), and configured to be in communication with the compression space (C) of the cylinder (330) to guide a refrigerant flow; a suction valve (422) disposed at the valve plate (421) to selectively open the suction inlet (422a); and a discharge valve (423) disposed at the valve plate (421) to selectively open the discharge outlet (423a);

- a first gasket (440) mounted between the suction/ discharge part (411) and the valve assembly (420) and a second gasket (450) mounted between the valve assembly (420) and the cylinder (330); ...

...characterized in that the reciprocating compressor (10) further comprises:
- an elastic member (460) mounted on a front surface portion (419) of the suction/discharge part (411), wherein the elastic member (460) is a Belleville spring, the elastic member (460) being disposed to face the main body portion (471) of the clamp (470); and
- one side of the elastic member (460) is supported by the suction/discharge part (411) and the other side of the elastic member (460) being supported by the clamp (470), such that the suction/discharge part (411) and the cylinder (330) are in close contact with each other by an elastic force of the elastic member (460); and wherein the clamp (470) fixes the valve assembly (420), the first gasket (440), the second gasket (450), and the elastic member (460) to the cylinder (330)."

(f) Auxiliary request 5

Claim 1 as in the main request with the following amendments (Board's emphasis of added or deleted features):

"...- a suction/discharge part (411) having a refrigerant inlet (412) for supplying a refrigerant to the cylinder (330) and a refrigerant outlet (413) for discharging a refrigerant compressed in the cylinder (330)~~, a rear surface portion (411a) of the suction/ discharge part (411) being disposed to face the cylinder (330)~~; and

- a valve assembly (420) installed at a portion of the cylinder (330) between the suction/discharge part (411) and the cylinder (330) to selectively allow a refrigerant to flow, the valve assembly (420) including a valve plate (421); a suction inlet (422a) and a discharge outlet (423a) disposed at the valve plate (421), and configured to be in communication with the compression space (C) of the cylinder (330) to guide a refrigerant flow; a suction valve (422) disposed at the valve plate (421) to selectively open the suction inlet (422a); and a discharge valve (423) disposed at the valve plate (421) to selectively open the discharge outlet (423a);
- a first gasket (440) mounted between the suction/ discharge part (411) and the valve assembly (420) and a second gasket (450) mounted between the valve assembly (420) and the cylinder (330), wherein a rear surface portion (411a) of the suction/discharge part (411) is disposed to face an opening of the cylinder (330) and is in contact with the first gasket (440);...
.....characterized in that the reciprocating compressor (10) further comprises:
- an elastic member (460) mounted on a front surface portion (419) of the suction/discharge part (411), wherein the elastic member (460) is a Belleville spring, the elastic member (460) being disposed to face the main body portion (471) of the clamp (470); and
- one side of the elastic member (460) is supported by the suction/discharge part (411) and the other side of the elastic member (460) being supported by the clamp (470), such that the suction/discharge part (411) and the cylinder (330) are in close contact with each other by an elastic force of the elastic member (460); and wherein the clamp (470) fixes the valve assembly (420), the first gasket (440), the second gasket (450), and the elastic member (460) to the cylinder (330)."

(g) Auxiliary request 6

Claim 1 as in the main request with the following amendments (Board's emphasis of added features):

...force of the elastic member (460),
- wherein mount portions (474, 476, 478) extend from the plurality of legs (473, 475, 477), the plurality of mount portions (474, 476, 478) being formed of a plate extending parallel to the main body portion (471) in a radial direction of the main body portion (471), - wherein through holes (474a, 476a, 478a) are disposed at the mount portions (474, 476, 478), respectively, and fastening members (484, 486, 488) penetrate through the through holes (474a, 476a, 478a), respectively."

(h) Auxiliary request 7

Claim 1 as in the main request with the amendments in auxiliary requests 1 and 6.

(i) Auxiliary request 8

Claim 1 as in the main request with the amendments in auxiliary requests 2 and 6.

(j) Auxiliary request 9

Claim 1 as in the main request with the amendments in auxiliary requests 3 and 6.

(k) Auxiliary request 10

Claim 1 as in the main request with the amendments in auxiliary requests 4 and 6.

(l) Auxiliary request 11

Claim 1 as in the main request with the amendments in auxiliary requests 5 and 6.

(m) Auxiliary request 12 (as maintained)

Claim 1 as in the main request with the following amendments (emphasis by the Board to indicate addition of features):

"...- a clamp (470) fixing the suction/discharge part (411) to the compression unit (300), the clamp (470) including a main body portion (471) disposed in front of the suction/discharge part (411) and a plurality of legs (473, 475, 477) extending from the main body portion (471) toward the cylinder (330), each of the plurality of legs (473, 475, 477) extending from an edge portion (471a) forming an outer circumferential surface of the main body portion (471),wherein the clamp (470) further includes mount portions (474, 476, 478) extending from the legs (473, 475, 477), respectively, and through holes (474a, 476a, 478a) disposed at the mount portions (474, 476, 478), respectively, wherein fastening members (484, 486, 488) penetrate through the through holes (474a, 476a, 478a), respectively, such that the clamp (470) is mounted on the cylinder (330);..."

(n) Auxiliary request 13

Claim 1 as in the main request with the amendments in auxiliary requests 1 and 12.

(o) Auxiliary request 14

Claim 1 as in the main request with the amendments in auxiliary requests 2 and 12.

Claim 4 as claim 5 of the main request with the following amendments (emphasis by the Board to indicate added or deleted text)

"... mounted on the cylinder (330) by ~~a fastener~~ the fastening members (484, 486, 488)."

VI. In the present decision, reference is made to the following documents:

(D1) WO 2009/083481 A1
(D2) EP 2 796 716 A2
(D9') EP 3 023 640 A1 - Parent application

VII. The parties' arguments relevant to the decision are discussed in detail in the Reasons for the Decision.

Reasons for the Decision

1. Background

The invention concerns the suction/discharge assembly of a reciprocating compressor (see patent specification, para. 0001). It aims at providing a simple coupling structure that securely connects a suction/discharge part to the cylinder (see paras. 0009 and 0110).

The compressor includes a clamp (470 - see Fig. 15) that secures the suction/discharge part (411) to the cylinder (330) of the compression unit (300). The clamp

consists of a main body (471) with multiple legs (473, 475, 477) extending from its edge towards the cylinder (see Fig. 15). The legs of the clamp envelop the suction/discharge part securing it against the cylinder (see Fig. 17). An elastic member (460 - see Fig. 4) positioned between the clamp (470) and the suction/ discharge part (411) ensures close contact through elastic force (see para 110 and Figs. 4, 15 and 17).

2. Admittance of the proprietor's arguments

The appellant opponent requests that the Board dismisses the proprietor's submissions in section 1.2 of their grounds of appeal. These submissions address a part of the decision that was favourable to the proprietor. However, this does not render the arguments as such inadmissible, contrary to the opponent's objection in section 2.3 of the reply dated 4 December 2023. There is no such restriction in the RPBA. These parts are directed to requests, facts, objections, arguments and evidence on which the decision was based (Articles 12(2) and (3) RPBA), and explain why, in the appellant's view, these aspects of the decision should be upheld. The Board does not consider these submissions to be amendments within the meaning of Article 12(4), sub-paragraph 1, RPBA and sees no reason for not taking them into account.

3. Added subject-matter - Main request (as granted) and auxiliary request 12 (as upheld)

3.1 The opposition division held that the addition of feature M1.5a - "a rear surface portion (411a) of the suction/discharge part (411) being disposed to face the cylinder (330)" - to granted claim 1 did not represent an unallowable intermediate generalisation (sections

13.2, 13.3 of the appealed decision). This conclusion also holds for upheld claim 1 (auxiliary request 12 in appeal).

3.2 The appellant opponent contests this finding. The Board agrees with the appellant opponent on this point.

3.3 The feature in question is extracted from the detailed embodiment described in para 0096 of the parent application (D9'): "A rear surface portion 411a of the suction/discharge part 411 is disposed to face the opening of the cylinder 330. In addition, the rear surface portion 411a comes in contact with the first gasket 440. The rear surface portion 411a may be formed in a circular shape". In the Board's view, the omission in claim 1 of the references to the cylinder opening and to the gasket mentioned in para 0096 result in unallowable intermediate generalisations.

3.4 In particular, feature M1.5a added to claim 1 specifies that the rear surface portion of the suction/discharge part faces the cylinder, but omits the detail that it faces an opening in the cylinder, as originally disclosed in paragraph 0096. The originally described arrangement establishes a direct suction and discharge path for the refrigerant, making the features functionally and structurally inextricably linked. The omission in claim 1 that the rear portion faces an opening in the cylinder constitutes an unallowable intermediate generalisation. Alternative configurations now falling within the claim scope - such as those in which the opening is located elsewhere and the suction/discharge path is implemented via suitable connecting tubes - find no basis in the parent application as originally filed.

3.5 The patent proprietor's further submission that providing suction and discharge paths via tubes is unreasonable or unworkable is unconvincing. As noted by the opponent, fluid transport via fixed tubes - which is undoubtedly well known - may be employed depending on design constraints or other considerations. It therefore cannot be concluded that the only technically feasible solution requires the rear surface of the suction/discharge part to face an opening in the cylinder, or that this feature is implicit and thus cannot be seen as omitted.

3.6 In an alternative line of reasoning, the proprietor maintains that the feature - a rear surface portion of the suction/discharge part being disposed to face the cylinder - is implicit in other claim features originally present in claim 1. Consequently, its explicit incorporation with the added feature M1.5a cannot constitute added subject-matter, whether as an unallowable intermediate generalisation or otherwise. They refer to the positions of the valve assembly (between the suction/discharge part and the cylinder, in communication with the compression space) and the clamp (with a main body and legs exerting elastic force to hold the suction/discharge part against the cylinder) defined by other claim elements, arguing that these imply that the rear surface of the suction/ discharge part must face the cylinder. This argument, they submitted, is even more relevant for claim 1 of auxiliary request 12, where the added feature additionally states that the clamp is mounted on the cylinder.

However, these features merely describe the relative positions of the elements with respect to each other and that the clamp fixes the elements to the cylinder,

but they neither specify nor imply the orientation of the different elements - in particular, that of the rear surface of the suction/discharge part relative to the cylinder.

The reference to original paragraph 0073 of the parent application, which defines, among other terms, "rear surface portion" as facing the cylinder, is of no help here. The term "a rear surface portion" is also part of the added feature, and was therefore not part of the other claim features originally present in claim 1.

3.7 The omission of the feature that the rear surface portion of the suction/discharge part comes into contact with a gasket also results in an unallowable intermediate generalisation. Paragraph 0096 of the parent application indicates that this contact is mandatory, not optional. The contact with the gasket is functionally and structurally linked to the other features - namely, that the rear surface portion of the suction/discharge part faces the opening of the cylinder - which together serve to establish a sealed suction and discharge path.

3.8 The patent proprietor argues that claim 1 concerns the inventive concept of stably fixing the suction/discharge assembly to the cylinder, whereas the gasket relates to the unrelated aspects of sealing or ease of assembly and refer to paragraphs 0009 and 0010 of the parent application. They maintain that the claim focuses on achieving close contact via a suitable clamp and elastic force, i.e. the aspect of stably fixing with no connection to the gasket. This argument is not convincing. While the parent application may describe distinct aspects, the Board is not persuaded that the stable fixing of the suction/discharge assembly is

unrelated to the sealing function provided by the gasket. In the contested patent, the stable fixing of the suction/discharge assembly serves to establish a sealed connection. This is all the more the case given that the feature of the stable fixing with a clamp having a specific structure was not presented as the central invention in the parent application, contrary to the present claim. Accordingly, a skilled reader of the parent application would not have been led to look for a more general inventive concept relating to the role of the clamp and its technical relationship with the other structural parts. Therefore, the skilled person would also not have had reason to consider that the omitted features are not linked to the role of the clamp.

3.9 The appellant-proprietor also argues that the gasket is originally described as optional, as paragraph 0081 of the parent application introduces it with "may". However, as the appellant opponent notes, the term "may" appears over 200 times in the detailed description, often for specific embodiment features, so that the presence of this term "may" cannot provide unambiguous support for interpreting the disputed feature as being truly optional. On the contrary, when reading the parent application, a skilled person will have to establish that the term "may" is completely devoid of its usual and ordinary meaning, i.e. when it expresses a mere possibility rather than a necessity.

3.10 In contrast, the Board is not convinced by the appellant opponent's objection that the use of a "plurality of legs" in the added feature M1.7b represents added subject-matter. Feature M17.b reads: "a plurality of legs (473, 475, 477) extending from the main body portion (471) toward the cylinder (330), each

of the plurality of legs (473, 475, 477) extending from an edge portion (471a) forming an outer circumferential surface of the main body portion (471)".

3.11 The appellant opponent argues that the term "a plurality of legs", while present in paragraph 0180 of the parent application indicated as the basis for the added feature, is used solely in the context of the specific embodiment of Fig. 15, which clearly shows only three legs. In their view, the skilled person would understand this term, when read in conjunction with the other passages describing the clamp of Fig. 15, as referring exclusively to the three legs presented throughout the embodiments.

They cite paragraph 0190, where the legs are referred to as "the first", "the second", and "the third", as limiting the disclosure to exactly three legs, particularly in the context of their interaction with muffler protrusions designed to prevent incorrect mounting (they also refer to para 0010 in this respect). Additional support is drawn from Fig. 2 and other assembly drawings, which allegedly show insufficient space for more legs, and from paragraph 0086, which describes the clamp as being nearly "in the shape of a trivet", a term that implies exactly three legs. They also note that where variants are intended (for other features), the application uses explicit language to that effect, as in paragraph 0126 "are not limited thereto and may be varied as desired".

3.12 However, the Board considers that the expression "a plurality of legs" in claim 1 does not add subject-matter. It is repeatedly and explicitly disclosed in paragraphs 0179–0187 of the parent application, through consistent use of the terms "a plurality of legs" and

"the plurality of legs". Although these passages relate to the three-legged embodiment of Fig. 15, they do not restrict the invention to that number. The skilled person would understand that the term allows for other configurations, if suitable. The use of the definite article in paragraph 0190 simply reflects the specific embodiment and does not limit the disclosure. Similarly, an express indication that the specific example is not limiting is not required to preserve the generality of the term "plurality".

3.13 Therefore the Board concludes that for the objections discussed above - with the exception of the objection relating to the feature "a plurality of legs" - claim 1 as granted (main request) and claim 1 as maintained by the opposition division (auxiliary request 12) contain subject-matter extending beyond the content of the earlier application as filed, Articles 100(c) and 76(1) EPC.

4. Added subject-matter - Auxiliary requests 1-11, 13

4.1 The following added subject-matter objections, which also arise in relation to auxiliary requests 1–11 and 13, were discussed by the parties in the written proceedings in the context of the main request (granted claims).

4.2 The opposition division held that the addition to granted claim 1 of feature M1.7b, extracted from para 0180 of the parent application, represented an unallowable intermediate generalisation - M1.7b: (the clamp includes) "a plurality of legs (473, 475, 477) extending from the main body portion (471) toward the cylinder (330), each of the plurality of legs (473, 475, 477) extending from an edge portion (471a) forming

an outer circumferential surface of the main body portion (471)" - (see section 13.1 of the appealed decision).

The appellant proprietor contests this finding.

4.3 The Board expressed its preliminary opinion on this issue in section 5.6 of its written communication:

"*In the Board's view, the division correctly concluded that the omission of mount portions, which extend from the legs and contain through holes for fastening members, in* ***claim 1*** *represents an unallowable intermediate generalisation. These features are taken from paragraph 0180 of the original application, which unequivocally relate to the specific embodiment of the clamp of Figure 15 and explained in pars. 0179-0187.*

These paragraphs describe a unitary clamp structure having the function to secure the suction/discharge unit, that is, all features are structurally and functionally interconnected. This is reinforced by original paragraph 0186, cited by the division (see the appealed decision, section 13.1.3) and the appellant opponent (reply of 4 December 2023, p. 5, par. 5), which further emphasises that the legs and mount portions collectively form "bridge parts", underlining the functional integration of these components."

4.4 Regarding the appellant opponent's objection that dependent claim 5 of the patent as granted introduces added subject-matter due to the use of a single fastener (singular), section 5.11 of the Board's written communication sets out its preliminary opinion on this issue.

"*The Board concurs with the opposition division that the use of "a fastener" (singular) in claim 5 in combination with fastening a clamp in the form of a trivet (with three legs), constitutes added subject-matter (see appealed decision section 15.1). The proprietor's argument referring to original paragraph 0086 (see section 1.1.2 of the proprietor's grounds) does not convince the Board. When reading paragraph 0086, in the context of the specific embodiments shown in the figures, the skilled person would understand it as describing one fastening element per leg, in any case not a clear and unambiguous disclosure of an attachment of a three-legged clamp with a single fastener (see opponent's reply of 4 December 2023, p. 5-6, bridging paragraph).*"

4.5 As indicated in section 7.1 of the Board's written communication, none of auxiliary requests 1–11 and 13 appeared to effectively address, by amendment, all of the added subject-matter objections identified for the main request. They therefore appeared not to be allowable for introducing added subject-matter under Article 76(1) EPC.

4.6 During the oral proceedings, the parties refrained from further comment on these issues. In the absence of further submissions, and after reconsidering its preliminary opinion, the Board sees no reason to depart from its preliminary view. It therefore concludes that, without prejudice to the issue of their admissibility, auxiliary requests 1–11 and 13 contain subject-matter extending beyond the content of the parent application as filed, contrary to Article 76(1) EPC, and are therefore not allowable.

5. Auxiliary request 14 - Admittance

5.1 The Board decided to admit auxiliary request 14 under Articles 12(4) and 12(6) RPBA.

5.2 The appellant-opponent objected to the admittance of this request, arguing that the request is new in appeal and not convergent with previous requests. It moreover addresses objections known from the start of opposition proceedings. As such, it should have been filed before the opposition division.

5.3 However, the possible filing of this request was already indicated in the proprietor’s letter of 27 September 2022, submitted in preparation for the oral proceedings before the opposition division and before the Rule 116(1) EPC deadline. Identified as potential auxiliary request 13E, it included a clear outline of the intended amendments. Since the opposition division upheld the patent in broader form, the proprietor had no need to formally file the request before the division. As that decision has now been overturned on appeal the proprietor has now actively filed the request previously outlined. The Board finds that these circumstances and the clear indications in the proprietor's letter of 27 September 2022 before the opposition division justify the admittance of auxiliary request 14 under Article 12(6) RPBA.

5.4 Under Article 12(4) RPBA, the Board must consider, among other factors, the complexity of the amendments, their suitability to address the issues which led to the decision under appeal and the need of procedural economy. In this case, the amendments address existing objections using features already discussed at first instance, adding no complexity and appearing suitable to resolve the issues. The request is convergent with

the issues discussed so far in the sense that it addresses and resolves them, thereby supporting procedural economy. The Board thus considers it appropriate to admit auxiliary request 14 into the proceedings pursuant to Article 12(4) RPBA.

6. Auxiliary request 14 - Added subject-matter

6.1 Claim 1 of auxiliary request 14 is amended to include that a first gasket is mounted between the suction/discharge part and the valve assembly, that a rear surface portion of the suction/discharge part is disposed to face an opening of the cylinder and the clamp further includes mount portions extending from the legs and including through holes, thereby overcoming the above identified objections of inadmissible intermediate generalisation. Dependent claim 4 (corresponding to dependent claim 5 as granted) has been amended to specify that the claim is mounted to the cylinder by fastening members (plural), also overcoming the corresponding added subject-matter objection identified above.

The Board is therefore satisfied that this request does not include added subject-matter.

6.2 During the oral proceedings before the Board the opponent raised a new and previously not treated objection under Article 123(2) EPC. The patent proprietor requested the Board not to admit this objection, and the Board decided not to admit it pursuant to Article 13(2) RPBA. The objection concerned the addition of mount portions extending from the legs to claim 1 without the accompanying limitation that they are formed of a plate extending **parallel to** the main body portion (Board's emphasis), as disclosed in

para 0183 of the parent application (D9'), arguing that the omission of this feature represents an unallowable intermediate generalisation.

The opponent argues the objection only became relevant once the mount portions were introduced into the claim via auxiliary request 14, and that it was prima facie relevant. They had not raised it earlier, assuming that the request would be found inadmissible.

However, under Article 13(2) RPBA, such late objections shall, in principle, not be taken into account unless there are exceptional circumstances, justified with cogent reasons by the party concerned. Such circumstances typically involve unforeseen developments during appeal proceedings, see Case Law of the Boards of Appeal, 10th edition 2022 (CLB), V.A.4.5.4.a. Since auxiliary request 14 was filed with the proprietor's grounds of appeal and the admission of a request is a normal and foreseeable event, the Board found no justification for the late submission and did not admit the objection.

7. Auxiliary request 14 - Inventive step

7.1 The appellant opponent's inventive-step objections against auxiliary request 14 substantially correspond to the objections addressed by the opposition division in respect of the upheld claims, as discussed in sections 26 and 27 of the appealed decision, where the division concluded that the subject-matter of claim 1 involved an inventive step.

7.2 The appellant opponent challenges these findings of the opposition division.

7.3 It is common ground that both D1 or D2 are suitable starting points for assessing inventive step. Both documents disclose a reciprocating compressor comprising a suction/discharge part with a valve assembly attached to the cylinder.

Document D1 discloses a clamp (element 29; see Fig. 8) for securing the suction/discharge part (elements 26-27) to the compressor cylinder. Clamp 29 may optionally be pre-tensioned ("[das zweite Klemmelement 29] auch eine Vorspannung aufweisen kann"), as indicated on page 11, lines 8–12 of D1. Document D2 discloses a similar clamp (element 140; see Figs. 3 and 4). Furthermore, D2 describes that the flexible legs (elements 142) of clamp or fixing member 140 may provide an elastic force for fixing the suction/discharge part (see paragraph [0065], last sentence).

7.4 The subject-matter of claim 1 differs from the assemblies disclosed in D1 and D2 in that an elastic member is positioned between the suction/discharge part and the main body of the clamp, such that the suction/discharge part and the cylinder are held in close contact by the elastic force of the elastic member.

7.5 This arrangement produces the corresponding effect of maintaining close contact between the suction/discharge part and the cylinder by means of an elastic force, as described in paragraphs 0016 (last three lines) and 0110 of the patent specification.

7.6 Both the opposition division and the appellant opponent argue that this effect is already achieved in the prior art by the optional flexible legs 142 in D2 (paragraph [0065]) and by the optional pre-tensioning of clamp element 29 in D1 (page 11, lines 8–12). They therefore

consider the effect of the distinguishing features as merely to provide the clamp and the elastic element as separate components. Consequently, they formulate the objective technical problem as how to provide an alternative arrangement for supporting a suction/ discharge part. The appellant opponent alternatively formulate the problem as how to increase or how to further increase the contact pressure in the arrangements of D1 or D2.

7.7 The appellant opponent also arrives at the same problem formulation of how to increase contact pressure when considering the embodiments of D1 or D2 without pre-tension or flexible legs, respectively.

7.8 The appellant opponent refers to common general knowledge of the skilled person and broadly asserts that selecting a one-piece or two-piece design for machine components, when aiming to provide an alternative support arrangement, is a routine design decision and thus obvious. They also argue that the inclusion of intermediate elastic elements to increase contact pressure in clamping arrangements is part of the skilled person’s general knowledge, citing known examples from the field of food preservation, used in glass jar closures for jams and other preserves.

7.9 However, the appellant opponent has not provided any supporting evidence or persuasive technical reasoning to demonstrate that dividing a component into two elements with distinct functions - namely, a rigid clamp and a separate elastic element - or introducing an intervening elastic element in a clamping assembly represents a standard or routine design approach in the specific context of the contested claim. In particular, there is no evidence before the Board that such a

configuration is commonly employed under the dynamic stresses and design constraints involved in securing a suction/discharge part in a reciprocating compressor, nor that it would be an obvious choice for the skilled person operating in this field and addressing this specific application in clamping arrangements. As to the example of the sealing rubber ring in the glass jar closure, this would rather appear to correspond to the gaskets recited in the claim, and would not lead the skilled person to employ it once more under the clamp.

7.10 In an alternative line of argument, the opponent submits that neither the contested claim nor the description define the elastic element in more concrete terms, even less with specific and measurable physical properties. They argue that, since any component possesses some degree of elasticity, the skilled person - when tasked with increasing contact pressure - would, as a matter of obviousness, introduce an insert to achieve that effect, which would inherently fall within the scope of the claim, regardless of how rigid the insert may be.

This reasoning is unconvincing. The skilled person reads the claim with a mind willing to understand and guided by their common general knowledge. In doing so, they would immediately interpret the term "elastic element" in context as referring to a component that provides a purposeful and functionally appropriate elastic force within the clamp arrangement, as compared to other more rigid elements. This clearly implies a minimum functional degree of elasticity suitable for the intended purpose, thereby excluding the opponent’s overly broad interpretation that also a rigid component, merely by possessing negligible elasticity

in this context, would still fall within the scope of the term "elastic element" in the contested claim.

7.11 In sum, no prior art has been cited that would suggest the skilled person to modify the design of D1 or D2 to introduce an intervening elastic element between the clamp and the suction/discharge part in order to increase or provide an elastic contact pressure - especially not in the claimed arrangement, which achieves a specific functional cooperation between the clamp and the elastic member. In the absence of any teaching or hint in the prior art, this modification cannot be regarded as an obvious step.

7.12 The Board therefore concurs with the appellant proprietor and the opposition division that the claimed subject-matter involves an inventive step, Art 56 EPC.

8. For the above reasons the Board holds that the decision under appeal must be set aside and that the claims as amended according to auxiliary request 14 meet the requirements of the EPC. The Board is furthermore satisfied that the description as amended before the Board is in line with the amended claims and is also allowable. It was also not objected to by the appellant opponent. The Board concludes that the patent as amended can be maintained pursuant to Article 101(3)(a) EPC.

Order

For these reasons it is decided that:

1. **The decision under appeal is set aside.**

2. **The case is remitted to the Opposition Division with the order to maintain the patent as amended in the following version:**

   Claims:
   Claims 1 to 9 of the auxiliary request 14 filed with the grounds of appeal dated 28 July 2023

   Description:
   Pages 2,4,5,7-12 of the patent specification,
   Pages 3 and 6 as filed during the oral proceedings before the Board,

   Drawings:
   Figures 1-18 of the patent specification.

The Registrar: The Chairman:

G. Magouliotis A. Pieracci

Decision electronically authenticated