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**Datasheet for the decision
of 26 November 2024**

Case Number: T 0946/22 - 3.4.02

Application Number: 03425830.1

Publication Number: 1553681

IPC: H02K7/118, F04D13/02, F04D15/00

Language of the proceedings: EN

Title of invention:

Coupling device between a rotor of a permanent-magnet synchronous motor and a working part

Patent Proprietor:

Askoll Holding S.r.l.

Opponent:

Copreci, S. Coop.

Relevant legal provisions:

EPC Art. 100(c), 123(2), 123(3)
RPBA 2020 Art. 13(2)

Keyword:

Grounds for opposition - added subject-matter (yes)
Amendments - extension of the protection conferred (yes)
Auxiliary request filed during the oral proceedings - Taken into account (no)



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Case Number: T 0946/22 - 3.4.02

D E C I S I O N
of Technical Board of Appeal 3.4.02
of 26 November 2024

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Decision under appeal: **Interlocutory decision of the Opposition
Division of the European Patent Office posted on
31 March 2022 concerning maintenance of the
European Patent No. 1553681 in amended form.**

Composition of the Board:

Chairman G. Flyng
Members: C.D. Vassoille
G. Decker
H. Bronold
P. Guntz

Summary of Facts and Submissions

- I. The patent proprietor and the opponent both filed appeals against the interlocutory decision of the opposition division concerning European patent no. 1 553 681.

- II. In the contested decision, the opposition division *inter alia* concluded that the ground for opposition under Article 100(c) EPC prejudiced the maintenance of the patent as granted. The first auxiliary request was considered not to meet the requirements of Article 54 EPC. The then third auxiliary request (now auxiliary request 7) was found to contravene Article 123(2) EPC. The then fourth auxiliary request was found to meet the requirements of the EPC.

- III. With their statement setting out the grounds of appeal the patent proprietor filed sets of claims according to first to seventh auxiliary requests, the first and seventh auxiliary requests corresponding respectively to the first and third auxiliary requests considered in the contested decision.

- IV. In a communication under Article 15(1) RPBA, the board informed the parties of its preliminary view that the ground for opposition under Article 100(c) EPC prejudiced the maintenance of the patent as granted and that for the same reason the second, third and fourth auxiliary requests filed with the patent proprietor's statement of grounds of appeal contravened Article 123(2) EPC. The board also informed the parties that it considered that each of the first, fifth, sixth and seventh auxiliary requests filed with the patent

proprietor's statement of grounds of appeal contravened Article 123(3) EPC.

V. In reply to the board's communication under Article 15(1) RPBA, the patent proprietor filed a new eighth auxiliary request.

VI. Oral proceedings before the board took place on 26 November 2024.

The appellant/patent proprietor ultimately requested that the decision under appeal be set aside and as a main request that the patent be maintained as granted, or as an auxiliary measure, that the patent be maintained in amended form on the basis of the claims of one of the first to seventh auxiliary requests filed with the statement of grounds of appeal or that the opponent's appeal be dismissed, i.e. that the patent be maintained in the version considered allowable by the opposition division, or that the patent be maintained in amended form on the basis of the claims of the eighth auxiliary request filed with the letter dated 25 October 2024 or of the ninth auxiliary request filed at the oral proceedings on 26 November 2024.

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

VII. Claim 1 of the main request has the following wording:

"A coupling device (11) between a rotor of a synchronous permanent-magnet motor and a working part (17), of the type comprising a driving member (22), being eccentric with respect to the rotor rotation axis and integral with a first motion transmission

component, and at least one driven element (24), being also eccentric with respect to the rotor rotation axis and integral with a second motion transmission component which is kinematically positioned in series with the previous one, said driving (22) and driven (24) members being placed in different parallel paths in a tight chamber (18) such that both members (22, 24) do not interfere with each other, said driving (22) and driven (24) members being operatively connected through kinematic connection means (25) whose axial dimension interferes with said parallel paths in said chamber (18), said kinematic connection means (25) comprise at least one elastic element (25a); characterized in that said at least one elastic element (25a) is slightly compressed in said chamber (18) between a bottom wall (19a) and a closing tight cover (19b), said elastic element (25a) being compressed to such an extent that, when impacted by the driving member (22), said elastic element (25a) is able to move within said chamber (18) against the friction forces that are due to its compression up to contacting the driven member (24)." (emphasis added by the board)

- VIII. Claim 1 of each of the second, third and fourth auxiliary requests includes the features relating to the "parallel paths" in unchanged form.
- IX. In claim 1 of each of the first, fifth, sixth and seventh auxiliary requests, the request for dismissal of the opponent's appeal and the eighth auxiliary request, the two references to "parallel paths" are replaced by "parallel planes".
- X. Claim 1 of the ninth auxiliary request corresponds to claim 1 of auxiliary request 8 and includes the

additional feature that the second motion transmission component is formed by a centrifugal pump impeller.

XI. The relevant arguments of the parties can be summarised as follows:

The opponent argued that the change in claim 1 from the originally filed wording "parallel planes" to "parallel paths" during the pre-grant examination proceedings resulted in the subject-matter of the European patent extending beyond the content of the application as filed, contrary to Article 100(c) EPC. Furthermore, changing the wording "parallel paths" to "parallel planes" in some of the auxiliary requests led to an inadmissible extension of the protection conferred, contrary to Article 123(3) EPC.

The patent proprietor essentially argued that the wording "parallel paths" in claim 1 of the main request did not extend beyond the content of the application as filed. Furthermore, changing the term "parallel paths" to "parallel planes" in claim 1 of the first auxiliary request did not lead to an extension of the scope of protection conferred.

The detailed arguments of the parties are referred to in the reasons below.

Reasons for the Decision

1. Main request - Amendments (Article 100(c) EPC)

- 1.1 The ground for opposition under Article 100(c) EPC prejudices the maintenance of the patent as granted.
- 1.2 In the application as filed, claim 1 included the features:
"said driving (22) and driven (24) members being placed on different and non interfering parallel planes in a tight chamber (18)"; and
"characterised in that said driving (22) and driven (24) members are operatively connected through kinematic connection means (25) whose axial dimension interferes with said parallel planes in said chamber (18)" (emphasis added by the board).
- 1.3 During the pre-grant examination proceedings, claim 1 as filed was amended, *inter alia*, by replacing the words "parallel planes" by "parallel paths".
- 1.4 In the contested decision, the opposition division found that the change of "parallel planes" to "parallel paths" in claim 1 of the main request added subject-matter not disclosed in the application as filed. In particular, according to the opposition division, the wording "parallel paths" allowed for non-interfering driving and driven members placed in the same plane.
- 1.5 The patent proprietor essentially argued that the opposition division's decision was based on a hypothetical configuration which did not fall within the scope of granted claim 1 when considered as a whole. They emphasised that claim 1 explicitly

specified that the driving and driven members were operatively connected through kinematic connection means whose axial dimension interfered with the "parallel paths" of these members. In the hypothetical configuration, however, it was the radial dimension, rather than the axial dimension, that interfered with the paths of the driving and driven members. Consequently, the patent proprietor contended that such a configuration did not meet the definition of claim 1 according to which the driving and driven members were operatively connected through kinematic connection means whose axial dimension interfered with the "parallel paths" of these members. A device in which the connection means axially interfered with both paths therefore could only be realised if the term "parallel paths" was interpreted as being equivalent to the original wording "parallel planes".

- 1.6 The board cannot agree with the patent proprietor's view. As the opponent correctly pointed out, the kinematic connection means not only have a radial dimension but also an axial dimension. Furthermore, if an axial dimension of the kinematic connection means interferes with the parallel paths of the driven and driving members, then it necessarily does so simultaneously with its radial dimension.

- 1.7 The patent proprietor further argued that the skilled person would understand from the application as filed that the term "parallel paths" was synonymous with "parallel planes". However, the board agrees with the opponent that the application as filed clearly distinguishes between the terms "paths" and "planes" (see the published patent application, EP 1 553 681 A1, e.g. paragraphs [0036] and [0037] and [0042]) and there is nothing in the application as

filed that could lead the skilled person to believe that the terms in question are used synonymously, i.e. that they have an identical meaning.

- 1.8 For the sake of completeness, the board notes that the term "paths" appears only once independently of the term "path area", in paragraph [0016] of the published application, namely in the context of the description of the European patent no. 0 983 630, referred to as background art in paragraph [0014] of the published application.
- 1.9 An interpretation according to which the "parallel paths" could be arranged in the same plane therefore has to be considered to be included in the subject-matter of claim 1 of the main request. However, this technical teaching is not directly and unambiguously derivable from the application as filed, since it only describes that the driving and driven members are arranged in different parallel planes.
- 1.10 In the light of the above considerations, the board concluded that the term "parallel paths" in claim 1 of the patent as granted introduces a technical teaching that goes beyond the content of the application as filed. Consequently, the ground for opposition under Article 100(c) EPC prejudices the maintenance of the patent as granted and thus the main request is not allowable.

2. First auxiliary request - Extension of the protection conferred (Article 123(3) EPC)

2.1 Claim 1 of the first auxiliary request contravenes Article 123(3) EPC.

2.2 Claim 1 of the first auxiliary request was amended by replacing the words "parallel paths" in claim 1 of the granted patent by "parallel planes", corresponding to the term used in claim 1 as filed.

2.3 The normal understanding of "parallel planes" is two-dimensional surfaces that extend infinitely in all directions along their respective planes, with the condition that they never intersect. In particular, the term "in different parallel planes" encompasses all possible configurations and positions within these planes, without reference to specific trajectories or locations within those planes.

2.4 On the other hand, a "path" is generally a one-dimensional concept, such as a line or curve, representing a specific trajectory or track within a space. "Parallel paths" usually means linear or curvilinear trajectories that are parallel to each other, i.e. that follow the same direction.

2.5 As the board has already established under point 1.7 with regard to the application as filed, the patent clearly distinguishes between "paths" and "planes" and there is no indication that the two terms would be understood by a person skilled in the art as synonyms and thus as interchangeable. Rather, "parallel paths" and "parallel planes" are different concepts, as the opponent has correctly pointed out, which do not fully overlap in the sense that one concept is clearly a

strict limitation of the other concept or, *vice versa*, that one is clearly an extension of the other concept.

- 2.6 In view of the different concepts implied by the terms "parallel paths" and "parallel planes" as explained above, the main argument of the opponent was that the "parallel planes" in claim 1 of the first auxiliary request included the possibility of non-parallel paths of the driven and driving members while they were placed in different parallel planes, thereby extending the protection conferred by the patent as granted. In particular, the opponent argued that if, for example, the rotor moved also axially, the path of the driving member would not be parallel to the path of the driven member. Rather, it would be for example sinusoidal, while the driving member and the driven member would still be in non-interfering parallel planes at all times, as required by claim 1 of the first auxiliary request.
- 2.7 The patent proprietor argued that the skilled person would clearly infer from the feature structure of claim 1 that the driven and driving members followed different paths and that these paths were planar in view of the parallel planes. Moreover, they argued that an assumed axial oscillating movement of the driving member was based on a purely speculative implementation of the claimed subject-matter, which could not be derived from it.
- 2.8 The board does not agree with the patent proprietor that the skilled person would understand from claim 1 of the first auxiliary request as a whole that not only are the driven and driving members placed in parallel planes, but that this also means that the paths of the driven and driving members are planar. Claim 1 of the

first auxiliary request does not exclude that during rotation the plane in which the driving member moves changes together with an axial movement of the rotor, which would lead to an undulating movement of the driving member seen in a direction of movement. Consequently, as argued by the opponent, the plane in which the driving member is arranged during rotation of the rotor does not necessarily have to be the same plane at every point during the movement of the driving member. The same applies in principle to the movement of the driven member.

2.9 Therefore, as rightly argued by the opponent, placing the driven and driving members in "parallel planes" does not necessarily imply that they are also placed in "parallel paths". Rather, according to claim 1 of the first auxiliary request, the paths can be non-parallel as long as the driven and driving members operate within their respective non-interfering parallel planes.

2.10 A corresponding interaction or relative positioning between the driven member and the driving member is also not of a purely speculative nature, which the skilled person could not have recognised in the claimed subject-matter. In this context, the board notes that claim 1 of the first auxiliary request does not contain any features relating to a specific type of coupling or interaction between the driven member, the kinematic connection means and the driving member. The claimed subject-matter defines in a rather general way a coupling between a rotor of a synchronous permanent-magnet motor and a working part, where the working part can be anything that is suitable for being driven by a synchronous permanent-magnet motor. Furthermore, the driven and driving members are defined only as being

eccentric with respect to the rotor rotation axis. This only means that the driving and driven members are not located in the centre of the rotor axis. However, it does not imply that the driving and driven members are restricted to a rotary movement around the rotor. Likewise, the first and second motion transmission components are not defined, in particular not in such a way that they cause a strictly rotational planar path of the driving member and the driven member in parallel planes. The claimed coupling device therefore encompasses a variety of ways in which a coupling between the driving member and the driven member can be implemented in practice. This is by no means limited to a purely rotational movement of the members in parallel paths in addition to parallel planes.

- 2.11 In a further line of argument, the opponent referred to several prior art documents which, in their view, showed axial play and thus allowed axial movement of the rotor. Irrespective of a movement of the driving member caused by axial play of the rotor, the board concluded that, in view of the broad scope of the claimed subject-matter, there are plausible implementations of the claimed coupling device that include the placement of the driven and driving members in parallel planes but not in parallel paths, which are thus not merely speculative or hypothetical in nature. As the board had already noted in its preliminary opinion, there are numerous ways of translating a rotational movement into other types of movement and in particular to movements of the driven and/or the driving members that do not follow a planar path in the sense that the moving member stays in the same plane at all times, such as lifting movements or oscillating movements.

2.12 In this context, the board highlights again that claim 1 of the first auxiliary request does not provide any specific limitation as to how a movement of the driving member is effected by the first motion transmission component, nor any limitation as to how a movement of the driven member is transmitted to a second motion transmission component. Furthermore, the mere fact that the driving and driven members are defined in claim 1 as being operatively connected through "kinematic connection means" whose axial dimension interferes with the parallel planes in the chamber, does not lead to any limitation, explicitly or implicitly, in the sense that non-parallel paths of the driven and driving members are excluded.

2.13 In the light of the above considerations, the board concluded that the amendment to claim 1 of the first auxiliary request extends the protection conferred by the patent as granted and therefore the first auxiliary request contravenes Article 123(3) EPC.

3. Second, third and fourth auxiliary requests - Article 123(2) EPC

3.1 Claim 1 of each of the second, third and fourth auxiliary requests still contains the term "parallel paths" as in claim 1 of the main request. Furthermore, none of the second, third and fourth auxiliary requests contains an amendment that leads to a different conclusion from that reached by the board with regard to the main request. The patent proprietor did not submit any further arguments in this respect for these auxiliary requests.

3.2 The reasons given for the main request under point 1. above therefore apply equally to each of the second,

third and fourth auxiliary requests, which consequently all contravene Article 123(2) EPC.

4. Fifth to seventh auxiliary requests, request for dismissal of the opponent's appeal and eighth auxiliary request - Article 123(3) EPC

4.1 Claim 1 of each of the fifth to seventh auxiliary requests, the request for dismissal of the opponent's appeal and the eighth auxiliary request contains the term "parallel planes" as in claim 1 of the first auxiliary request. Furthermore, none of these auxiliary requests contains an amendment that leads to a different conclusion from that reached by the board with regard to the first auxiliary request. The patent proprietor did not submit any further arguments in this respect for the auxiliary requests in question.

4.2 The reasons given for the first auxiliary request under point 2. above therefore apply equally to each of the fifth to seventh auxiliary requests, to the request for dismissal of the opponent's appeal and to the eighth auxiliary request, which consequently all contravene Article 123(3) EPC.

4.3 The question of whether the eighth auxiliary request filed for the first time after notification of the communication pursuant to Article 15(1) RPBA was to be taken into account in the appeal proceedings under Article 13(2) RPBA could therefore remain unanswered.

**5. New ninth auxiliary request - Consideration
(Article 13(2) RPBA)**

5.1 During the oral proceedings before the board the patent proprietor filed a new ninth auxiliary request.

5.2 According to Article 13(2) RPBA, any amendment to a party's appeal case made after notification of a communication under Article 15(1), shall, in principle, not be taken into account unless there are exceptional circumstances, which have been justified with cogent reasons by the party concerned.

5.3 The patent proprietor argued that there were exceptional circumstances because, during the oral proceedings before the board, they were confronted with a new line of argumentation of the opponent, who had based an argument for the first time in the proceedings on working parts other than a pump. The new ninth auxiliary request was a response to this new line of argumentation.

5.4 The board cannot recognise that the patent proprietor was surprised by a new line of argumentation at the oral proceedings which would justify taking into account the new ninth auxiliary request. In the communication under Article 15(1) RPBA, the board had already explained in detail on several pages the reasons why it provisionally considered that the scope of protection of claim 1 of the first auxiliary request appeared to be extended. In that communication the board had explained, *inter alia*, that the breadth of claim 1 did not justify the exclusion of non-parallel paths of the driven and driving members in parallel planes from the claimed subject-matter. Furthermore, in view of the opponent's arguments in their statement of

grounds of appeal, the board referred to the fact that a rotational movement could realistically be converted into other types of movements of the driving member.

- 5.5 By letter dated 25 October 2024, the patent proprietor submitted arguments on the opponent's objection under Article 123(3) EPC and filed an eighth auxiliary request for the first time in the appeal proceedings and after notification of the communication under Article 15(1) RPBA.
- 5.6 At the oral proceedings before the board, the opponent did in fact cite further examples of coupling devices that could cause non-parallel paths of the driven and the driving members. In particular, they did refer in this context to several prior art documents, which in their view could cause an oscillating (sinusoidal) movement of the driving member or a lifting movement of the driven member (in the case of a hammer drill). However, as the board explicitly pointed out at the oral proceedings, it did not consider these additional arguments to be relevant to the final decision.
- 5.7 Furthermore, the patent proprietor had not only reason, but also ample opportunity, to respond to the opponent's objection under Article 123(3) EPC already with a reply to the opponent's statement of grounds of appeal (Article 12(1)(c) RPBA). At the latest, however, they should have filed the ninth auxiliary request after notification of the board's communication under Article 15(1) RPBA, which they failed to do.
- 5.8 In the light of the above considerations, the board decided not to take the ninth auxiliary request into account in the appeal proceedings under Article 13(2) RPBA.

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:



D. Grundner

G. Flyng

Decision electronically authenticated