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**Datasheet for the decision
of 7 September 2011**

Case Number: T 1690/08 - 3.2.07

Application Number: 99200797.1

Publication Number: 0953522

IPC: B65G 17/08

Language of the proceedings: EN

Title of invention:

Conveyor mat and conveying apparatus

Patent Proprietor:

Rexnord FlatTop Europe B.V.

Opponent:

REGINA SUD S.p.A.

Headword:

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Relevant legal provisions:

EPC Art. 54, 56

Relevant legal provisions (EPC 1973):

-

Keyword:

"Novelty: no (main request)"

"Admissibility: no (auxiliary request 1)"

"Inventive step: no (auxiliary requests A and C)"

Decisions cited:

-

Catchword:

-



Case Number: T 1690/08 - 3.2.07

D E C I S I O N
of the Technical Board of Appeal 3.2.07
of 7 September 2011

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Decision under appeal: Interlocutory decision of the Opposition
Division of the European Patent Office posted
29 May 2008 concerning maintenance of European
patent No. 0953522 in amended form.

Composition of the Board:

Chairman: H. Meinders
Members: P. O'Reilly
E. Dufrasne

Summary of Facts and Submissions

- I. Opposition was filed against European patent No. 0 953 522 as a whole based on Article 100(a) EPC (lack of novelty and lack of inventive step).

The opposition division decided that it intended to maintain the patent in amended form in accordance with the fifth auxiliary request.

- II. The appellant (patent proprietor) filed an appeal against that decision.
- III. The appellant requested that the decision under appeal be set aside and that the patent maintained as granted or, in the alternative, on the basis of the amended auxiliary request 1 filed during the oral proceedings held on 7 September 2011, or on the basis of one of the auxiliary requests A and C filed with letter dated 8 August 2011.

Auxiliary requests 1, 2 and 3 filed with the letter dated 6 October 2008 and auxiliary request B, filed with letter dated 8 August 2011 were withdrawn during the oral proceedings.

The respondent requested that the appeal be dismissed.

- IV. Claim 1 of the **main request** reads as follows:

"A conveyor mat (4) for conveying products in a conveying direction (5) between at least two divert wheels (2, 3), comprising a number of rows of side-by-side modules (11, 11a) succeeding each other in the

conveying direction (5) and extending transversely to the conveying direction (5), which modules (11, 11a), viewed in conveying direction (5), each have their front (12) and rear (13) sides provided with hinge loops (14), the hinge loops (14) of said successive rows of modules cooperating and being coupled by means of hinge pins extending transversely to the conveying direction (5), such that the top faces of the modules (11, 11a) together constitute a conveying face in the conveyor mat (4), into which conveyor mat (4) a number of guide modules (11a) are incorporated which have their bottom side (15) provided with guide members (16) for cooperation with at least one guide provided on a conveying track the guide modules (11a) being incorporated into the conveyor mat (4) so as to be substantially equally spaced from one of the lateral edges (21a, 21b) thereof, characterized in that the difference in distance between the guide members (16) transverse to the conveying direction is less than or equal to the width of an average module of the conveyor mat, such that guide walls (19a, 19b; 42a, 42b; 81a, 81b) of the guide members (16) together constitute one narrow guide track (17) extending in conveying direction (5)."

Claim 1 of the **amended auxiliary request 1** (filed during the oral proceedings) reads as follows (amendments when compared to claim 1 of the main request are depicted in bold or struck through by the Board):

"A **conveying apparatus, comprising a conveying track extending in a conveying direction (5) for supporting a conveyor mat (4), said conveying track further**

comprising at least one guide (10a (*sic*) extending in conveying direction (5) for guiding guide members (16) of the conveyor mat (4), and a conveyor mat (4) for conveying products in a conveying direction (5) between at least two divert wheels (2, 3), comprising a number of rows of a plurality of side-by-side modules (11, 11a) succeeding each other in the conveying direction (5) **each row including a plurality of side-by-side modules** and extending transversely to the conveying direction (5), which modules (11, 11a), viewed in conveying direction (5), each have their front (12) and rear (13) sides provided with hinge loops (14), the hinge loops (14) of said successive rows of modules cooperating and being coupled by means of hinge pins extending transversely to the conveying direction (5), such that the top faces of the modules (11, 11a) together constitute a conveying face in the conveyor mat (4), into which conveyor mat (4) a number of guide modules (11a) are incorporated which have their bottom side (15) provided with guide members (16) ~~for that cooperation~~ **cooperate** with **the** at least one guide provided on a **the** conveying track the guide modules (11a) being incorporated into the conveyor mat (4) so as to be substantially equally spaced from one of the lateral edges (21a, 21b) thereof, characterized in that the difference in distance between the guide members (16) transverse to the conveying direction is less than or equal to the width of an average module of the conveyor mat, such that guide walls (19a, 19b; 42a, 42b; 81a, 81b) of the guide members (16) together constitute one narrow guide track (17) extending in conveying direction (5), **the conveyor mat (4) having, in width direction, a fixed position relative to the conveying track (1).**"

Claim 1 of the **auxiliary request 1**, which was filed with letter dated 6 October 2008 and subsequently withdrawn at the oral proceedings, had the same wording as the amended auxiliary request 1 **except** for the absence of the phrase: "**each row including a plurality of side-by-side modules**".

Claim 1 of **auxiliary request A** reads as follows (amendments when compared to claim 1 of the **main** request are depicted in bold or struck through by the Board):

"A **conveying apparatus, comprising a conveying track extending in a conveying direction (5) for supporting a conveyor mat (4), said conveying track further comprising at least one guide (10a (*sic*) extending in conveying direction (5) for guiding guide members (16) of the conveyor mat (4), and a conveyor mat (4) for conveying products in a conveying direction (5) between at least two divert wheels (2, 3), comprising a number of rows of a plurality of side-by-side modules (11, 11a) succeeding each other in the conveying direction (5) and extending transversely to the conveying direction (5), which modules (11, 11a), viewed in conveying direction (5), each have their front (12) and rear (13) sides provided with hinge loops (14), the hinge loops (14) of said successive rows of modules cooperating and being coupled by means of hinge pins extending transversely to the conveying direction (5), such that the top faces of the modules (11, 11a) together constitute a conveying face in the conveyor mat (4), into which conveyor mat (4) a number of guide modules (11a) are incorporated which have their bottom**

side (15) provided with guide members (16) ~~for that cooperation~~ **cooperate** with **the** at least one guide provided on ~~a~~ **the** conveying track the guide modules (11a) being incorporated into the conveyor mat (4) so as to be substantially equally spaced from one of the lateral edges (21a, 21b) thereof, ~~characterized in that~~ **wherein** the difference in distance between the guide members (16) transverse to the conveying direction is less than or equal to the width of an average module of the conveyor mat, such that guide walls (19a, 19b; 42a, 42b; 81a, 81b) of the guide members (16) together constitute one narrow guide track (17) extending in conveying direction (5), **characterized in that the guide walls of the narrow guide track (17) each cooperate with a guide (10, 10a).**"

Claim 1 of the **auxiliary request C** reads as follows (amendments when compared to claim 1 of the **main** request are depicted in bold or struck through by the Board):

"A **conveying apparatus, comprising a conveying track extending in a conveying direction (5) for supporting a conveyor mat (4), said conveying track further comprising at least one guide (10a (sic) extending in conveying direction (5) for guiding guide members (16) of the conveyor mat (4), and a** conveyor mat (4) for conveying products in a conveying direction (5) between at least two divert wheels (2, 3), comprising a number of rows of **a plurality of** side-by-side modules (11, 11a) succeeding each other in the conveying direction (5) and extending transversely to the conveying direction (5), which modules (11, 11a), viewed in conveying direction (5), each have their front (12) and

rear (13) sides provided with hinge loops (14), the hinge loops (14) of said successive rows of modules cooperating and being coupled by means of hinge pins extending transversely to the conveying direction (5), such that the top faces of the modules (11, 11a) together constitute a conveying face in the conveyor mat (4), into which conveyor mat (4) a number of guide modules (11a) are incorporated which have their bottom side (15) provided with guide members (16) ~~for that cooperation~~ **cooperate** with ~~the~~ at least one guide provided on ~~a~~ **the** conveying track the guide modules (11a) being incorporated into the conveyor mat (4) so as to be substantially equally spaced from one of the lateral edges (21a, 21b) thereof, ~~characterized in that~~ **wherein** the difference in distance between the guide members (16) transverse to the conveying direction is less than or equal to the width of an average module of the conveyor mat, such that guide walls (19a, 19b; 42a, 42b; 81a, 81b) of the guide members (16) together constitute one narrow guide track (17) extending in conveying direction (5), **characterized in that the guide walls of the narrow guide track (17), each cooperate with a guide (10A (sic)), and in that the guide (10A (sic)) extends in or adjacent the center (41) of the conveying track, and in that the conveying apparatus is a pasteurizer in which between divert wheels (2, 3) at the ends of the conveying track, the conveyor mat (4) travels through a number of zones where water having per zone a different temperature is sprayed onto the conveyor mat (4).**"

- V. The document of the opposition proceedings cited in the present decision is the following:

D1: DE-U-296 11 470

VI. The arguments of the appellant may be summarised as follows:

(i) The subject-matter of claim 1 of the main request is novel over the disclosure of D1.

The opposition division was wrong to consider that the external walls of the projections 27 in D1 form a narrow guide track. In fact (directed towards the centre line of the conveyor mat) only one of these walls actually functions as a guide wall. Whilst taken out of context each such projection of a module may have two walls which can guide, in the context of the conveyor in which the modules are provided only one wall is disclosed as actually guiding. The other wall is not disclosed as having that function.

(ii) The amended auxiliary request 1 should be admitted into the proceedings.

The amended request is filed in response to the conclusions of the Board concerning the preceding version of the request filed with letter dated 6 October 2008. The amendments to claim 1 of the request are intended to direct the claim to a wide form of the conveyor mat. The amendments are intended to be a refinement of the preceding version of the request rather than to take it in a different direction.

(iii) The subject-matter of claim 1 of auxiliary request A is novel over the disclosure of D1.

In the embodiment of figures 1 and 2 of D1 the belt is not in a fixed position since there may be projections 27 on one side which prevent movement in one transverse direction but not in the opposed direction. Also there is no narrow track between two lines of projections when projections are provided along both sides of the conveyor (see D1, page 6, lines 7 to 14) because the track so formed between them is wide. In the embodiment of figures 3 and 4 the conveyor mat will not have the claimed rows containing a plurality of side-by-side modules.

(iv) The subject-matter of claim 1 of auxiliary request A involves an inventive step.

In accordance with claim 1 of this request the guide walls are actually in contact with a guide. In the case of the walls of the projections shown in the embodiment of figures 1 and 2 of D1 only one wall is in contact with a guide so that a single line of projections cannot form the narrow track. Again, if there are projections on the other side of the mat then the track so formed is not narrow as required by the claim. In the case of the embodiment of figures 3 and 4 the conveyor mat will not have the claimed rows containing a plurality of side-by-side modules and the skilled person would not know how to provide such a mat. It is speculative to suppose how the skilled person would construct a conveyor mat according to D1 with a width of twice that of an end module.

Furthermore, there is no indication of how the guides would be arranged for such a mat. It is speculative to

consider this and the arrangement would need the application of inventive skills to be achieved.

(v) Auxiliary request C is admissible.

The use of the conveyor in a pasteurizer was clearly the main goal of the invention as shown in paragraph [0011] of the patent specification which indicates the object of the invention as being to provide a conveyor mat for conveying products through a pasteurizer. The European search is not limited to the claims, and so would have taken into account the object of the invention.

(vi) The subject-matter of claim 1 of auxiliary request C involves an inventive step.

The use of the conveying apparatus with a pasteurizer implies that this mat would be very wide and involve rows having a large number of modules. This would exclude a conveyor mat having just two side-by-side modules in a row. Also, D1 is not relevant prior art for such an apparatus; the closest prior art would be a conveying apparatus for a pasteurizer.

VII. The arguments of the respondent may be summarised as follows:

(i) The subject-matter of claim 1 of the main request is not novel over the disclosure of D1.

The decision of the opposition division regarding the lack of novelty was correct. Both side walls of the projections 27 in D1 can be used for guiding. The

respondent itself accepts the side walls 19A and 19B of one projection as guide walls.

(ii) The amended auxiliary request 1 should not be admitted into the proceedings.

The amendments to claim 1 introduce, amongst other matters, objections under Article 123(2) EPC.

(iii) The subject-matter of claim 1 of auxiliary request A is not novel over the disclosure of D1.

In the embodiment of figures 1 and 2 of D1 there is a second row of projections on the right hand side which are not shown but would lead to a fixed position of the conveyor belt in both directions. This embodiment also has rows containing a plurality of side-by-side modules. The track formed between the projections is narrow, which is any way an unclear term.

(iv) The subject-matter of claim 1 of the auxiliary request A does not involve an inventive step.

The skilled person wanting to form a conveyor mat in accordance with D1 and intermediate in size between that of figures 1 and 2 on the one hand and that of figures 3 and 4 on the other hand would apply the arrangement of figures 3 and 4 to the embodiment of figures 1 and 2 and arrive at a conveyor mat having a narrow track between the projections.

When constructing a conveying apparatus according to D1 wherein its conveyor mat has a width of two end modules (the next step after the single module width version of

figures 3 and 4) the resulting conveying mat would have the inside walls of the projections each cooperating with a guide so that the added features of this claim (compared to claim 1 of the main request) would be the result.

(v) Auxiliary request C is not admissible.

The request goes in a direction different to the previous requests, namely towards a pasteurizer. In the patent in suit the use of the conveying apparatus in a pasteurizer was just one of many possible uses and it could not be expected that this use could become part of the claims of a request. Also, this use was not in any of the claims as originally filed so that it would probably not have been considered in the European search.

(vi) The subject-matter of claim 1 of the auxiliary request C does not involve an inventive step.

The application of the teaching of D1 to the mat of a pasteurizer does not involve an inventive step.

VIII. At the oral proceedings before the Board, among other matters the auxiliary request 1 filed with letter of 6 October 2008, was discussed; after which this request was replaced by the present amended auxiliary request 1. This was followed by a discussion on the admissibility of such request.

Reasons for the Decision

Main request

1. *Novelty*

- 1.1 The appellant argued that the disclosure of D1 did not take away the novelty of the subject-matter of claim 1.

It argued that the opposition division was wrong to consider the external walls of the projections 27 in D1 as constituting a narrow guide track because only one of these walls actually functioned as a guide wall.

- 1.2 The Board cannot agree with the arguments of the appellant in this respect. The claim is directed to the conveyor mat alone and not to a combination of a mat and a guide since the reference in the claim to the guide is only a statement of purpose, i.e. "for cooperation with at least one guide provided on a conveying track". The relevant question is therefore whether both the internally and the externally directed side walls (as seen in the transverse direction) of the projections 27 can be considered to be suited for this purpose. It is not disputed that D1 only specifically discloses one of the walls as being operated as a guide wall. The Board considers, however, that a projection of the type disclosed in D1 will necessarily be structurally arranged such that one of its walls can act as a guide wall. This structure will necessarily mean that also the other wall will be suitable to function as a guide wall in cooperation with an appropriate guide. Both walls are on one and the same

projection 27 and are not far apart, and thus constitute a narrow guide track.

The Board is therefore not convinced by the arguments of the appellant that the decision of the opposition division was wrong in this respect.

- 1.3 Therefore, the subject-matter of claim 1 of this request is not novel in the sense of Article 54 EPC.

Auxiliary request 1

2. *Admissibility*

- 2.1 During the oral proceedings before the Board the conclusion was reached by the Board that the subject-matter of claim 1 of auxiliary request 1 filed with letter dated 6 October 2008 was novel but lacked an inventive step.
- 2.2 Thereupon the appellant withdrew this request and filed an amended auxiliary request 1. In comparison with the preceding version of the request claim 1 of the version filed during the oral proceedings contained the extra wording: "each row including a plurality of side-by-side modules".
- 2.3 The appellant argued that the amended request should be admitted since it arose from the discussion of the preceding version of the request. Moreover, it considered that it did not essentially alter the discussion.

2.4 In the discussion of inventive step for the subject-matter of claim 1 of the preceding version of this request the Board had pointed out that the teaching of D1 would lead the skilled person to consider a conveyor mat having rows each containing two side-by-side modules and that this would lead to the formation of a narrow track.

The above interpretation of D1 was brought to the attention of the appellant by the Board during the oral proceedings and the appellant was given the opportunity to comment upon this interpretation. Moreover, in the view of the Board this interpretation merely arises out of the disclosure of D1 as previously discussed in the proceedings. In fact, this interpretation was discussed in the oral proceedings before the opposition division (see page 1 of the minutes and Annex 2 attached thereto) so that the interpretation could not have come as a surprise to the appellant.

According to the appellant the amendment to claim 1 of the request was intended to distinguish the claim from such an interpretation of the teaching of D1, i.e. the mat would be a wide mat corresponding the embodiment shown in figures 1 and 2 of D1.

2.5 In the view of the Board if the interpretation of the claim as given by the appellant (which is not necessarily that of the Board) were to be accepted then the arguments relating to inventive step would be very different from those considered for claim 1 of the preceding version of the claim, whereby the feature of the claim of a narrow track arose automatically when

putting the teaching of D1 into practice in particular situations.

2.6 The Board considers therefore that the amended version of the claim does not lead to a convergence of the discussion but rather would move the discussion to a new starting point which necessarily does not produce convergence.

2.7 In view of this lack of convergence the Board decided not to admit the request into the proceedings.

Auxiliary request A

3. *Novelty*

3.1 Compared to claim 1 of the main request claim 1 of this request is directed to a conveying apparatus comprising a conveying mat as well as a conveying track comprising at least one guide. Furthermore, there are rows of a plurality of side-by-side modules and the guide walls of the narrow guide track each cooperate with a guide.

3.2 In the embodiment of figures 1 and 2 of D1 there is no disclosure of a narrow track in the sense of the claim. In a first alternative of this embodiment there are projections at only one side of the rows (see page 6, lines 5 and 6). In a second alternative the projections could additionally be provided at the other side (see page 6, lines 7 to 9). In that case, however, the Board considers that the track could not be considered to be narrow in the sense of the claim.

In the embodiment of figures 3 and 4 of D1 each row is formed from a single end module so that there is no plurality of side-by-side modules in any row.

3.3 Therefore, the subject-matter of claim 1 of this request is novel in the sense of Article 54 EPC.

4. *Inventive step*

4.1 Although D1 discloses two specific embodiments of the conveyor mat its teaching in fact is broader, as considered by the Board in the oral proceedings.

The document explains that the second type of module 20 (an end module) each carries a projection 27 and has half the width of the first type of module 10 (see page 5, lines 11 to 22). It further indicates that the minimum width of the mat is that of the second type of module, i.e. as shown in figures 3 and 4, and that the width can be any multiple of the width of this module by combining together the appropriate numbers of first and second modules in an appropriate pattern (see page 5, lines 19 to 22). The document thus teaches a range of widths of the mat with the embodiment of figures 3 and 4 being a specific example of this showing the minimum width. The skilled person would thus choose a width appropriate to the task in hand.

The next widest mat after that shown in the embodiment of figures 3 and 4 is one which has double this width. This is necessarily achieved by forming one row out of two second type end modules (to realise on each side of the mat the required end plates 25) and the next row from one of the first type of modules and so forming

the rows alternatively along the length of the conveyor. In this situation the projections would automatically be separated by five widths of and four spaces between consecutive hinge plates 22 compared to a total of eighteen such widths and seventeen such spaces between the two sides of the conveyor. The result is that a guide track would be formed between the resulting two lines of projections that would have a width of approximately 30% of the width of the conveyor mat. The Board considers that in the context of a conveyor mat this width falls within the scope of the term "narrow" as used in the claim. There is no indication in the description concerning the meaning of this term which would indicate against this interpretation.

A conveyor mat constructed as indicated above would fall within the scope of claim 1 with respect to the feature that the mat comprises "a number of rows of a plurality of side-by-side modules" since this wording does not require that all the rows have a plurality of side-by-side modules.

4.2 The above interpretation of D1 was brought to the attention of the appellant during the oral proceedings as already indicated above with respect to the admissibility of the amended auxiliary request 1.

4.3 The claim further contains the feature that the guide walls of the narrow track "each cooperate with a guide".

In the preamble of the claim it is specified that there is "at least one guide". The Board therefore understands that the wording of the new feature of the

claim covers embodiments in which the guide walls cooperate with the same guide and embodiments in which the individual side walls cooperate with different guides. During the oral proceedings the Board asked the appellant if this was its interpretation of the claim. The appellant confirmed this.

- 4.4 When considering constructing a conveyor according to D1 having a width of two end modules as explained in point 4.1 above the skilled person will have to decide where to place the guides 28. In the embodiment of figures 3 and 4, which is only one end module wide there is a half guide at each end which cooperates with a respective row of projections 27. In the embodiment of figures 1 and 2 which has a width of at least four end modules there is a half guide at one end and then full guides spaced apart by a distance equal to the length of an end module.

It would therefore be consistent with both embodiments that the skilled person when constructing a conveyor according to D1 with a width of two end modules would place an extra full guide in the centre. This would correspond precisely to the position of the first full guide in the embodiment of figures 1 and 2. Such a guide would engage both rows of projections. It would therefore correspond to the interpretation of the claim according to which the guide members may cooperate with the same guide. Even if the skilled person were to consider that the conveyor could be provided with just two full guides, one on each side, this would still correspond to the second interpretation of the claim according to which each guide member cooperates with a different guide.

4.5 Thus, the skilled person when carrying out the teaching of D1 for a conveyor having a width of two end modules as discussed above would necessarily arrive at a conveyor in accordance with claim 1 of this request.

Therefore, the subject-matter of claim 1 of the auxiliary request A does not involve an inventive step in the sense of Article 56 EPC.

Auxiliary request C

5. *Admissibility*

5.1 The claims of this request are directed to the combination of the conveying apparatus and its conveyor mat of claim 1 of auxiliary request A with a pasteurizer having a number of zones wherein water at different temperatures is sprayed onto the conveyor mat. This claim is further supplemented with the feature "and in that the guide (10A) (*sic*) extends in or adjacent the center (41) of the conveying track".

5.2 The respondent argued that this request should not be admitted in the proceedings since it goes in a new direction. It questioned whether this aspect would have been covered by the search.

5.3 It is not necessary for the Board to reach a conclusion regarding the admissibility of the request since, as will become clear below, the subject-matter of claim 1 of the request lacks an inventive step.

6. *Inventive step*

6.1 The appellant argued that the use of the conveying apparatus and its conveyor mat with a pasteurizer implied a wide mat with a large number of modules across its width which would exclude the possibility that it had just two end modules across its width.

The Board notes that the argument is based upon a statement by the appellant which is not supported by any evidence. Already for this reason the argument cannot be accepted.

6.2 The appellant further argued that the closest prior art should be a conveyor for a pasteurizer and that the conveyor known from D1 was not such a conveyor.

The Board notes that apart from the necessity that such a conveyor must be capable of withstanding higher temperatures it has not been shown that there are any other special requirements.

The appellant has not shown that because of this feature D1 should be excluded from consideration, or that other features are present in the conveyor of D1 which made it unsuitable for the specifically claimed use. The additional problem solved by the specifically claimed intended use is "making the conveyor mat suitable for higher temperatures".

Conveyors are used in many different types of apparatus and in the opinion of the Board the skilled person would naturally adapt the conveyor of D1 to the intended use. In the present case this means that the

skilled person employing the teaching of D1 would simply ensure that the modules are capable, e.g. with respect to their construction material, of withstanding the temperature encountered in pasteurizers.

6.3 Therefore, the subject-matter of claim 1 of auxiliary request C does not involve an inventive step in the sense of Article 56 EPC.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:

G. Nachtigall

H. Meinders