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**D E C I S I O N**  
**of 10 April 2002**

**Case Number:** T 0636/99 - 3.5.2

**Application Number:** 91116668.4

**Publication Number:** 0479194

**IPC:** H01J 35/10

**Language of the proceedings:** EN

**Title of invention:**  
Rotary-anode type X-ray tube

**Patentee:**  
Kabushiki Kaisha Toshiba

**Opponent:**  
Philips Corporate Intellectual Property GmbH

**Headword:**  
-

**Relevant legal provisions:**  
EPC Art. 123(2), 54, 56  
EPC R. 65(1)

**Keyword:**  
"Admissibility (yes)"  
"Added subject-matter - main request, second and third  
auxiliary requests (yes) - fourth auxiliary request (no)"  
"Admissibility of the first auxiliary request (no)"  
"Novelty and inventive step - fourth auxiliary request (yes)"

**Decisions cited:**  
G 0001/99, G 0009/92

**Catchword:**

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Case Number: T 0636/99 - 3.5.2

**D E C I S I O N**  
**of the Technical Board of Appeal 3.5.2**  
**of 10 April 2002**

**Appellant:** Philips Corporate Intellectual  
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**Representative:** Hartmann, Heinrich, Dipl.-Ing.  
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**Respondent:** Kabushiki Kaisha Toshiba  
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**Representative:** Henkel, Feiler, Hänzel  
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**Decision under appeal:** Interlocutory decision of the Opposition Division  
of the European Patent Office posted  
22 April 1999 concerning maintenance of European  
patent No. 0 479 194 in amended form.

**Composition of the Board:**

**Chairman:** W. J. L. Wheeler  
**Members:** J.-M. Cannard  
P. H. Mühlens

## Summary of Facts and Submissions

I. The opponent appealed against the decision of the opposition division concerning the maintenance of European patent No. 0 479 194 in amended form in accordance with the proprietor's request filed on 10 March 1999.

II. The following documents:

D1: DE-A-3 900 729,

D2: a construction drawing,

D3: Philips Technical Review, vol. 44,  
No. 11/12, November 1989, E.A. Muijderman et al,  
"A diagnostic X-ray tube with spiral-groove  
bearings", pages 357 to 363,

cited in support of the opposition;

documents:

D4: construction drawings of a bearing for an X-ray  
tube of the type MRC200:

D4a: "SR-Lager Zus." 8212 904 63191

D4b: "Spiralrillenachse" 8212 904 63092 (2 sheets)

D4c: "Lagerbuchse" 8212 904 63012 (2 sheets)

D4d: "Distanzring" 8212 901 57881

D4e: "Druckscheibe" 8212 904 63202 (2 sheets)

D4f: "Ring" 8212 904 63251

D5: delivery documents:

- a quotation No. 5000096780A to the Duke University dated 14 June 1989 relating to a system having a tube SRC120 (5 pages),
- an offer for two MRC X-ray tube systems made to the Duke University and dated 19 July 1989 (2 pages),
- a purchase order No. HS-173095-J from the Duke University dated 18 August 1989 referring to this quotation and this offer (2 pages),
- an invoice dated 11 December 1989 to Philips Medical Systems Inc., Shelton, USA, concerning a system O/A 600871 with a tube MRC 200-05 08 for shipment to the Duke University (11 pages),
- a declaration of warranty for a Cardiovascular System O/A 600871 from Philips Medical Systems dated 19 March 1990 (2 pages), and
- an invoice No. 0600871-016 to the Duke University dated 24 August 1990 (1 page),

D6: lists of parts:

- a list of parts "MRC 200 05 08-ROT 1001" with the code No. 9806 291 07902 (1 page),
- a list of parts "MRC 200/0508 MONTIERT" with the code No. 4512 140 96391 (2 pages),

- a list of parts "MRC 200 Stufe 2 Röhre Zus." with the code No. 8212 907 17421 (2 pages),
- a list of parts "MRC 200 Stufe II Röhre Zus" with the code No. 8212 910 0936 (1 page), and
- a list of parts "SR-Lager Zus." with the code No. 8212 904 63191 (1 page), and

D7: a declaration by Rolf Behling dated 10 August 1999,

cited for the first time in the statement of grounds of appeal;

D8: a letter from FDA dated 17 September 1999 and a letter from CIP-US dated 23 July 1999,

cited in the letter of the appellant dated 24 September 1999;

D9: DE-A-3 900 730, and

D10: a declaration by Rolf Behling dated 15 August 2000,

cited in the letter of the appellant dated 12 October 2000; and

D11: a copy of "DIN 509", pages 128 to 129,

cited with the letter of the respondent dated 25 February 2000,

were referred to during the appeal proceedings.

III. Claim 1 of the patent in suit, as amended on 10 March 1999 and maintained on appeal as main request, reads as follows:

"A rotary-anode type X-ray tube comprising:

an anode target (11);

a rotary structure (12) to which said anode target (11) is fixed;

a stationary structure (15), coaxially arranged with said rotary structure (12), for rotatably holding said rotary structure (12);

a hydrodynamic bearing (19) having spiral or helical grooves (21) constituting radial and thrust bearing sections and being formed between said rotary structure (12) and said stationary structure (15), the bearing (19) having a first bearing gap (G) at each of the bearing sections in which a metal lubricant is applied, the lubricant being in liquid state during rotation of said rotary structure (12);

a lubricant storage chamber (22) for receiving the lubricant and communicating with the first bearing gap (G);

a vacuum envelope (18) in which said rotary and stationary structures (12,15) and said hydrodynamic bearing (19) are installed;

a second gap (Q) which is formed between said rotary structure (12) and said stationary structure (15), the second gap (Q) communicating with the inner space of

the vacuum envelope (18);

a first annular groove (25) which is formed between said rotary structure (12) and said stationary structure (15), said first annular groove (25) being arranged as an interface between the bearing (19) and the inner space of the vacuum envelope (18) and directly communicates with the first bearing gap (G) of the hydrodynamic bearing (19) and the second gap (Q),

wherein said first annular groove (25) is a large-capacity annular space for decreasing gas pressure when bubbles produced in the bearing (19) reach the annular space,

wherein said first annular groove (25) is void of lubricant except in a situation where small amounts of lubricant have leaked into the annular groove (25) during operation,

wherein the second gap (Q) is narrower than the width of said first annular groove (25) along the radial direction thereof,

wherein said first annular groove (25) and said second gap (Q) forming means for preventing the lubricant from leaking, and

wherein the grooves (21) in that bearing section communicating directly with the annular groove (25) are arranged such as to flow back toward the bearing (19) lubricant accumulated in the annular groove (25) when the X-ray tube is operating."

Claims 2 to 12 are dependent on Claim 1.



- IV. With a letter dated 11 March 2002 the respondent/ proprietor filed claims 1 according to first, second and third auxiliary requests.

Claim 1 according to the first auxiliary request differs from claim 1 of the main request in that the feature "provided in one of said stationary structure (15) and said rotary structure (12)" has been incorporated after the expression "a lubricant storage chamber (22)".

Claim 1 according to the second auxiliary request differs from claim 1 of the main request in that the feature "one of said stationary structure (15) and said rotary structure (12) having a hollow space as" has been incorporated before the expression "a lubricant storage chamber (22)".

Claim 1 according to the third auxiliary request differs from claim 1 of the main request in that the feature "provided in an internal shaft of said tube being one of said stationary structure (15) and said rotary structure (12)" has been incorporated after the expression "a lubricant storage chamber (22)".

- V. During oral proceedings held on 10 April 2002, the respondent filed a new first auxiliary request which differs from claim 1 of the main request in that the feature "a lubricant storage chamber (22) for receiving the lubricant and communicating with the first bearing gap (G)" has been deleted. The auxiliary requests filed with the letter dated 11 March 2002 were maintained as second, third and fourth auxiliary requests, respectively.

VI. The arguments of the appellant/opponent can be summarised as follows:

The X-ray tube according to claim 1 of the main request was not novel, or at least did not involve an inventive step in view of the public prior use of an X-ray tube of the type MRC200.

The delivery documents (D5) and the lists of parts (D6) proved that an X-ray tube of this type had been delivered to the Duke University in 1989 and comprised the bearing shown in the construction drawings (D4). The internal structure of the sold MRC200 tube had to be considered as having been made available to the public before the priority date of the patent in suit. Speculation about the probability that the tube had been destroyed or its structure analysed by non-destructive investigation methods was irrelevant for determining the availability to the public of a prior sold product (T 952/92, OJ EPO 1995, 755).

The construction drawings (D4) proved that the MRC200 tube had all the features of claim 1 according to the main request. More specifically: the "first annular groove" was formed by the combination of an undercut and a chamfer at the interface between the ring block ("Druckscheibe" 5) and the vacuum side of the radial flange of the shaft ("Spiralrillenachse" 1) of the MRC200 tube and had such large dimensions compared with the width of the bearing gaps that bubbles produced in the bearing during operation of the tube would expand when they reached the annular groove. The spiral grooves in the thrust bearing section of said tube directly communicated with the annular groove to flow back the lubricant accumulated in the annular groove.

Moreover the "lubricant storage chamber" according to claim 1 of the fourth auxiliary request was anticipated by the recess formed on the surface of the helical groove section of the internal shaft of the MRC200 tube since this recess had a lubricant storage function.

The annular space (15) of the X-ray tube disclosed in document D9, which was also formed by an undercut and a chamfer, was described there as being a large-capacity space for decoupling the radial and axial bearings of the tube. Since the tube disclosed in D9 was developed at the same time as the MRC200 tube, it would have been obvious to the skilled man to modify the annular groove in the MRC200 tube according to the teaching of D9 in order to improve its working.

VII. The arguments of the respondent/proprietor can be summarised as follows:

The appeal was unconnected with the reasons of the appealed decision. The alleged public prior use of the MRC200 X-ray tube was referred to for the first time in the grounds of appeal and should be rejected as late filed. Since no other evidence, facts and arguments were presented in the grounds of appeal, the appeal was unsubstantiated and inadmissible.

It was highly improbable that such an expensive product as the MRC200 X-ray tube had been destroyed during its warranty period. Thus it should not be considered that all its individual features, and more specifically the internal structure of the bearing, had been made available to the public through the delivery to the Duke University. It was not proven beyond any doubt that the MRC200 X-ray tube shown in the construction

drawings was similar to the tube sold in 1989 to the Duke University, since, according to the declaration by Mr. Behling dated 10 August 1999, at the time of delivery the MRC200 X-ray tubes were being manufactured in a trial production run and subjected to a number of variations.

Even if the two basic embodiments described in the patent in suit both had their lubricant storage chamber formed in the internal shaft, it did not appear from the whole content of the application as filed that this location was the only possible one. No lubricant storage chamber was recited in the originally filed claim 1. Therefore claim 1 according to the various auxiliary requests was fully supported by the application as filed.

The annular space located at the interface between the ring block ("Druckscheibe") and the vacuum side of the radial flange on the shaft ("Spiralrillenachse") of the MRC200 tube merely corresponded to the combination of an undercut and a chamfer according to DIN 509 (see D11). This space, because of its very small size, was neither suitable, nor intended to provide the function of the large-capacity annular space as meant in the context of the invention, i.e. to decrease gas pressure when bubbles produced in the bearing reached the annular space. The construction drawings of the MRC200 tube did not show that the spiral groove on the thrust bearing section directly communicated with the annular space. For these reasons, the MRC200 tube could neither anticipate nor suggest the tube according to claim 1 of the main request. Moreover, the recess which was formed on the surface of the internal shaft of the MRC200 tube at the middle of its helical groove section had neither

the capacity nor the function of the lubricant storage chamber identified in claim 1 of the fourth auxiliary request, which stated that the lubricant storage chamber was provided in an internal shaft of the tube.

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

IX. The respondent requested that the appeal be dismissed (main request), or that the patent be maintained in amended form in the following version:

Claims 1, 8 and 11 (first auxiliary request) filed in the oral proceedings, claims 2 to 7, 9, 10 and 12, description and drawings in the form approved by the opposition division; or

Claim 1 (second auxiliary request) filed as first auxiliary request with the letter dated 11 March 2002; claims 2 to 12, description and drawings in the form approved by the opposition division; or

Claim 1 (third auxiliary request) filed as second auxiliary request with the letter dated 11 March 2002; claims 2 to 12, description and drawings in the form approved by the opposition division; or

Claim 1 (fourth auxiliary request) filed as third auxiliary request with the letter dated 11 March 2002; claims 2 to 12, description and drawings in the form approved by the opposition division.

## **Reasons for the Decision**

1. *Admissibility of the appeal*

1.1 Lack of novelty and lack of inventive step were the grounds on which the opposition was based. In addition to document D1 an alleged public prior use consisting in the delivery of a rotary-anode X-ray tube of the type MRC200 by Philips Medizin Systeme GmbH was also cited as prior art. This alleged public prior use was substantiated in the statement of grounds of opposition as to its date (between November 1989 and April 1990), its object (the MRC200 tube represented by the drawing of D2) and its circumstances (delivery to the Duke University, Durham, U.S.A.); a witness was also offered to confirm the details of the prior use (see the statement of grounds of opposition, page 1). Moreover, the appealed decision states, inter alia, that the subject-matter of claim 1 as amended (present main request) is novel and involves an inventive step over the prior use.

1.2 The documents (D4 to D8, D10) and arguments presented in the statement of grounds of appeal likewise relate to an alleged public prior use, consisting in the delivery of a rotary-anode X-ray tube of the type MRC200 by Philips Medizin Systeme GmbH to the Duke University, Durham, U.S.A. in 1989. It is also argued there that the subject-matter of claim 1 according to the main request, i.e. as amended during the opposition oral proceedings, lacks novelty and inventive step in view of said prior use.

1.3 The prior use was presented and the witness offered in the statement of grounds of opposition, meeting the requirements of Rule 55c EPC within the period of time defined in Article 99(1) EPC. Amended claim 1, as found

allowable by the opposition division, was filed during oral proceedings before the opposition division. It was in response to this that the appellant/opponent filed the new documents (D4 to D8, D10), which all relate to the same alleged prior use. In these circumstances, there is no reason for rejecting them as being filed late.

1.4 In view of the foregoing, the respondent's allegations that the grounds of appeal are based on fresh grounds and on fresh facts, and that the appeal is unconnected with the reasons given in the appealed decision, do not appear to be supported by the facts. Consequently, the Board judges that the appeal complies with the requirements mentioned in Rule 65(1) EPC, and is therefore admissible.

2. *Proprietor's main request*

2.1 Claim 1 according to the main request includes the features specified in granted claim 1 in combination with, inter alia, the feature "a lubricant storage chamber (22) for receiving the lubricant and communicating with the first bearing gap (G)" which is taken from granted dependent claim 8 or granted dependent claim 11.

2.2 The application as filed discloses only two alternative embodiments of the tube: in the first embodiment the internal shaft of the tube forms its stationary structure and in the second its rotary structure. According to the description and the figures as filed, the lubricant storage chamber is always formed along the centre axis of the internal shaft of the X-ray tube. Granted claim 8 identifies the lubricant storage

chamber as formed in the stationary structure (i.e. according to the first embodiment), but is appended to granted claim 1 only through dependent claim 7 which identifies this structure as having a columnar structure rotatably inserted in the rotary structure. In a similar way, granted claim 11 identifies the lubricant storage chamber as formed in the rotary structure (i.e. according to the second embodiment), but is appended to granted claim 1 only through dependent claim 10 which identifies this structure as having a columnar structure inserted in the stationary structure. Granted claims 7, 8, 10 and 11 are respectively identical to dependent claims 8, 9, 11 and 12 of the application as filed. None of the other claims of the application as filed mentioned the location of the lubricant storage chamber. The Board has found no disclosure in the application as filed of the concept of a lubricant storage chamber, when present, being formed elsewhere than in the internal shaft of the X-ray tube.

2.3 The respondent has argued that a lubricant storage chamber was not recited in the originally filed claim 1 and that, according to the description, the tube of the invention is not explicitly restricted to a lubricant storage chamber located in its internal shaft and the location of this storage chamber has no significant technical influence on the operation of the tube. However a claim does not **disclose** everything falling within its scope, so this argumentation does not prove that a tube with a lubricant storage chamber located in the structure receiving the internal shaft was disclosed in the application as filed.

2.4 Consequently the Board judges that claim 1 of the main



request contravenes Article 123(2) EPC.

3. *Proprietor's first auxiliary request*

Claim 1 according to the first auxiliary request results from the deletion of the feature "a lubricant storage chamber (22) for receiving the lubricant and communicating with the first bearing gap (G)" recited in claim 1 of the main request. The deletion of this feature from claim 1, which would widen the scope of claim 1 and put the opponent, who is the sole appellant, in a situation worse than if he had not appealed, is not acceptable because of the rule against the reformatio in peius (G 9/92, OJ EPO 1994, 875). The Board is aware that according to G 1/99, OJ EPO 2001, 381, an exception to this principle may be made in circumstances where the patent as maintained in amended form would otherwise have to be revoked as a direct consequence of an inadmissible amendment held allowable by the opposition division in its interlocutory decision. However, this exception does not apply to the present case because it is possible to remedy the situation by amending claim 1 to specify the particular arrangement which is disclosed in the application as filed (see fourth auxiliary request, below).

4. *Proprietor's second and third auxiliary requests*

The subject-matter of claims 1 according to the second and third auxiliary requests is not restricted to an X-ray tube comprising a lubricant storage chamber (22) provided in an internal shaft of the tube. Thus for the same reasons as given for the main request (see supra 2.2 and 2.3), the subject-matter of these claims extends beyond the original content of the application

in contravention of Article 123(2) EPC.

5. *Fourth auxiliary request - Admissibility of the amendments*

The subject-matter of claim 1 according to the fourth auxiliary request is restricted to an X-ray tube comprising a lubricant storage chamber (22) provided in an internal shaft of the tube being one of said stationary structure (15) and rotary structure (12). The Board is satisfied that this claim does not contravene Article 123(2) or (3) EPC.

6. *Fourth auxiliary request - Novelty*

6.1 The appellant submits that the subject-matter of claim 1 according to the fourth auxiliary request is not novel in view of the X-ray tube of the type MRC200 (construction drawings D4a to D4f) which according to him was delivered to the Duke University, Durham (USA) in 1989 (D5 to D6). According to the proprietor this MRC200 tube does not have the following features of claim 1 according to the fourth auxiliary request:

- (i) a lubricant storage chamber provided in an internal shaft of the tube,
- (ii) an annular groove being a large-capacity annular space for decreasing gas pressure when bubbles produced in the bearing reach the annular space, and
- (iii) the grooves in that bearing section communicating directly with the annular groove are arranged to flow back toward the bearing

lubricant accumulated in the annular groove when the tube is operating.

- 6.2 Having regard to feature (ii), the appellant argues that the construction drawings (D4) show an annular space provided in the bearing of the MRC200 tube between the ring block ("Druckscheibe": D4e; part 5 in the drawing D4a, "SR-Lager Zus.") and the left hand transition between the shaft and its radial flange ("Spiralrillenachse": D4b; part 1 in the drawing "SR-Lager Zus.") that corresponds to the large-capacity annular space (25) for decreasing gas pressure when bubbles produced in the bearing reach the annular space, as recited in the claim. The appellant reinforces this argument by referring to document D9 and deducing therefrom that bubbles produced in the bearing of the MRC200 tube can expand in this annular space because it is much wider than the bearing gap formed between the rotary and stationary structure of the bearing.
- 6.3 As pointed out by the proprietor, this prior art annular space is formed by a  $0.30 \text{ mm} \pm 0.1 \times 45^\circ$  chamfer at the anode side end of the 27.2 mm centre hole of the ring block (Druckscheibe) and by an undercut (Freistich) on the shaft (Spiralrillenachse) at the non-anode side transition between the shaft and the radial flange (D4b: Einzelheit X).
- 6.4 Assuming for the sake of argument, without deciding, that the MRC200 tube is prior art in the meaning of Article 54 EPC, the Board considers that undercuts and chamfers, which are usually provided by sinking the inevitably slightly rounded transition between a shaft and an integral flange thereon so as to avoid unwanted

mechanical contact and allow the thrust bearing to rotate freely, form part of the general knowledge of the skilled person. Moreover the depth (0.2 mm) and the angles (8° and 15°) of the undercut shown in the drawings (D4b: Spiralrillenachse, Einzelheit X) correspond almost exactly to those of the examples of undercuts according to DIN 509 (D11). Accordingly, in the opinion of the Board, unless told otherwise, the skilled man will simply assume that the construction details of the annular space of the thrust bearing referred to by the appellant are provided for avoiding unwanted contact between the ring block and the flange. It would not occur to him that the annular space serves any other purpose.

- 6.5 According to the patent in suit (see published patent specification: from column 1, line 54 to column 2, line 11; column 5, lines 2 to 9) the annular groove (25) should be sufficiently large so that the gas pressure of the bubbles (or gas) produced in the bearing when the tube is assembled or while the tube is operating decreases when the bubbles reach the annular space without expelling the metal in this space. The Board thus shares the proprietor's view that the definition of the annular groove in claim 1 is a functional definition and not a mere structural one.
- 6.6 Even if the structure of the tube, and particularly its internal structure, was visible to a skilled person having access to an X-ray tube of the type MRC200, it would not have been possible for him to deduce the assembling method or the effect achieved when the bearing is rotating, from an inspection of the disassembled bearing.

- 6.7 Although the width of the bearing gap formed between the rotary and stationary structures of the bearing (20 F) is much smaller than the dimensions of the annular groove formed by combination of the undercut and chamfer referred to by the appellant, this groove cannot be unambiguously recognized as a "large-capacity space" because its capacity is small in comparison with that of other cavities of the bearing, in particular the cavity formed between the stationary structure and the right hand side of the radial flange (D4b: Spiral-rillenachse). The appellant thus has not convinced the Board that it is directly derivable from the drawings D4, or from the bearing itself, that the annular groove referred to by the appellant is such as to decrease gas pressure when bubbles produced in the bearing reach the annular space.
- 6.8 Having regard to feature (iii), it has not been proved that the spiral grooves of the thrust bearing of the MRC200 tube communicate with the annular groove. On the contrary, "Ansicht Z" of D4e shows that the area occupied by the spiral grooves stops well short of the annular space.
- 6.9 The teaching of document D1 or D9 cannot be considered in combination with the MRC200 tube in determining novelty of the bearing because the tube and the construction drawings contain no clear reference to these documents.
- 6.10 Consequently, the Board judges that the subject-matter of claim 1 according to the fourth auxiliary request is novel within the meaning of Article 54 EPC.

7. *Fourth auxiliary request - Inventive step*

7.1 Starting from the MRC200 tube, the objective problem underlying the present invention can be seen as providing means for decreasing the gas pressure of the bubbles produced when the tube is assembled or during its operation and for preventing lubricant from leaking in the vacuum envelope of the tube. This corresponds to the technical problem identified in the patent in suit (see column 1, line 44 to column 2, line 18).

7.2 This problem is solved by providing the tube with an annular groove being a large-capacity annular space for decreasing gas pressure when bubbles produced in the bearing reach the annular space, and by arranging the grooves in that bearing section communicating directly with the annular groove to flow back toward the bearing lubricant accumulated in the annular groove when the tube is operating.

7.3 The appellant refers to D9 which discloses an X-ray tube which has got a large-capacity annular space (15) formed by the combination of an undercut (Freistich) on the shaft (8) in the boundary transition region between the radial bearing (11b), which is provided with a helical groove, and the axial thrust bearing (14), which is provided with a spiral groove, and a bevelling of the bearing housing (9) opposite the undercut (15) for decoupling these bearings from each other to avoid movement of lubricant between them. According to the appellant, it would be obvious to the skilled man to consider applying the same combination of features at the vacuum side of the flange of the bearing of the MRC200 tube to obtain the same effect.

7.4 However, the annular space (15) of D9 is on the other side of the flange and it is not obvious that the effect provided by it would be obtained at the transition of the spiral groove of the thrust bearing and the vacuum-side (lower) end of the shaft of the MRC200 tube because this end of the shaft is not provided with a helical groove (which is only on the anode-side end of the shaft), nor is it separated from the stationary structure by the same gap as is the anode-side end of the shaft. A reduction of gas pressure when bubbles reach the annular space is neither disclosed nor suggested in D9. Accordingly, the skilled person would not be led by D9 to form a large-capacity annular space at the transition between the vacuum-side end of the shaft and the corresponding thrust bearing section of the MRC200 tube because he would not expect this to solve the technical problem. Since a solution to this problem is neither disclosed nor suggested in any other piece of cited prior art or by the general knowledge of the skilled man, the Board considers that the subject-matter of independent claim 1 according to the fourth auxiliary request involves an inventive step within the meaning of Article 56 EPC.

8. Under these circumstances it is not necessary to decide whether the delivery of the MRC200 tube to the Duke University in 1989 made the details of the bearing available to the public before the priority date of the patent in suit.

9. In the Board's judgement, taking into account the amendments according to the fourth auxiliary request the patent in suit and the invention to which it relates satisfy the requirements of the Convention. The

description and drawings do not require amendment.

## Order

### **For these reasons it is decided that:**

1. The decision under appeal is set aside.
2. The case is remitted to the department of first instance with the order to maintain the patent in amended form in the following version:

Claim 1 filed as third auxiliary request with the letter dated 11 March 2002, claims 2 to 12, description and drawings in the form approved by the opposition division.

The Registrar:

The Chairman:

M. Hörnell

W. J. L. Wheeler