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**D E C I S I O N**  
of 7 March 1996

**Case Number:** T 0702/94 - 3.2.3

**Application Number:** 87907836.8

**Publication Number:** WO 88/03839

**IPC:** B04B 11/04

**Language of the proceedings:** EN

**Title of invention:**  
Operating system for centrifugal separator

**Applicant:**  
Alfa-Laval Separation AB

**Opponent:**  
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**Headword:**  
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**Relevant legal provisions:**  
EPC Art. 83, 84, 111(1) and (2)

**Keyword:**  
"Clarity-objection (not upheld)"  
"Disclosure of the invention (not questioned)"  
"Remittal to first instance (examination in two instances)"

**Decisions cited:**  
-

**Catchword:**  
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Boards of Appeal

Chambres de recours

Case Number: T 0702/94 - 3.2.3

**D E C I S I O N .**  
**of the Technical Board of Appeal 3.2.3**  
**of 7 March 1996**

**Appellant:** Alfa-Laval Separation AB  
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**Representative:** Simpson, Ronald Duncan Innes  
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**Decision under appeal:** Decision of the Examining Division 2.3.13.100 of  
the European Patent Office dated 8 April 1994  
refusing European patent application  
No. 87 907 836.8 pursuant to Article 97(1) EPC.

**Composition of the Board:**

**Chairman:** C. T. Wilson  
**Members:** F. Brösamle  
L. C. Mancini

### Summary of Facts and Submissions

- I. The Appellant (Applicant) lodged an appeal on 1 June 1994 - paying the appeal fee on the same day - against the decision of the Examining Division of 8 April 1994 to refuse European application No. 87 907 836.8. The Statement of Grounds of Appeal was received on 9 August 1994 (Telefax).

The Examining Division had expressed the view that Claim 1 underlying its decision lacked clarity and that Claim 1 did not provide for the stated, i.e. claimed, effects since structural features essential for achieving the desired effects were missing.

- II. The Appellant requested that the decision under appeal be set aside and that the patent be granted on the basis of a Claim 1 which was filed with a letter of 10 January 1996 following the Board's Communication pursuant to Article 110(2) EPC, whereby a linguistic error in the preamble of the claim is amended, and which Claim 1 reads as follows:

"1. A centrifugal separator having a rotor with a rotor body, an annular slide (5) coaxial with the rotor body and axially movable relative thereto to open and close openings (8) at the circumference of the rotor, an annular wall (4) connected to the rotor body and forming together with the slide (5) an annular chamber (9) arranged to receive and upon rotation of the rotor retain a liquid for hydraulic influence on the slide (5), an additional slide (6) axially movable relative to the rotor body and the annular wall (4), the additional slide extending axially into and having an axially directed surface exposed in a radially outer part of the annular

chamber (9), and sealing means (15, 17) for sealing the additional slide to the rotor body and to the annular wall, characterised in that the sealing means (15, 17) are arranged to seal constantly the radially outer portion of the annular chamber by sealing constantly the additional slide (6) to the rotor body and to the annular wall (4) whereby the sealing is maintained during axial movement of the additional slide (6), so that upon axial movement in one direction the additional slide causes liquid to be displaced radially inwards in the annular chamber (9) by taking up an increasing part of the volume of the annular chamber, and upon axial movement in the other direction the additional slide causes liquid to be displaced radially outwards in the annular chamber (9) by taking up a decreasing part of the volume of the annular chamber."

III. Appellant's essential arguments in view of the above requests can be summarised as follows:

- it is accepted that the openings "8" which can be opened and closed by the annular slide "5" are essential features for defining the invention according to the independent claim;
- in Claim 1 not all features of a particular embodiment need to be mentioned since Article 83 EPC makes it clear that the European patent application seen as a whole must disclose the invention in a manner sufficiently clear and complete for it to be carried out by a person skilled in the art;

- in contrast to known centrifugal separators, according to the invention of the present European application the additional slide "6" does not serve to open and close an outlet from the annular chamber and instead it is arranged to control the liquid level in this chamber by occupying different volumes in this chamber to displace liquid contained in the chamber;
- even though only one embodiment of the invention is described in detail this does not mean that only this embodiment can be claimed since the precise manner in which the axial displacement of the additional slide is produced is not relevant to the invention, since the essence of the invention is an additional slide which controls the liquid level in the annular chamber by occupying different volumes in a radially outer part of the annular chamber;
- for the inventive concept it is irrelevant how exactly the additional slide is carried out since it is allowable to define a feature broadly in a claim in terms of its function (functional definition of a feature), so that Claim 1 is also not open to an objection under Article 84 EPC, and the impugned decision cannot be upheld.

## Reasons for the Decision

1. The appeal is admissible.
2. *Amendments*
  - 2.1 Claim 1 filed with the letter of 10 January 1996 is now restricted in its preamble to an annular slide "5" which is coaxial with the rotor body and axially movable relative thereto **to open and close openings (8) at the circumference of the rotor.**
  - 2.2 This feature is unambiguously disclosed in the documents originally filed, (see single figure reference signs "2, 8" and "1, 5" in combination with page 6, line 24 to page 7, line 36).
  - 2.3 The amendments in the characterising clause of Claim 1 are of a linguistic nature and need therefore no further comment.
  - 2.4 Summarising present Claim 1 is not open to an objection under Article 123(2) EPC.
3. *Provisions of Article 84 EPC*
  - 3.1 Claim 1 makes it clear that the annular slide "5" moves axially to open and close openings "8" realised at the circumference of the rotor (body). Liquid contained in the separation chamber "7" can thus leave the centrifugal separator if so wished.
  - 3.2 The annular slide "5" is indirectly activated by an **additional slide "6"** which **does not** open and close an outlet from the annular chamber. Slide "6" acts like a plunger which enters more or less into the annular

chamber "9" thereby influencing the level of the liquid contained in it. Slide "6" according to Claim 1 and its characterising clause is sealed by sealing means "15, 17" i.e. on both radial sides of the slide, namely between the rotor body and slide "6" and also between an annular wall "4" and the slide "6". This sealing acts **constantly** even when slide "6" moves axially.

3.3 As a consequence of the sealing means "15, 17" arranged as prescribed in Claim 1 and the axial motion of the additional slide "6" the annular slide "5" can be raised (position as shown in the single figure of the present European application) or lowered so that liquid contained in the separation chamber "7" can escape therefrom or not.

4. Claim 1 seen in the light of the description and the drawings discloses the principle underlying the invention in a manner sufficiently clear and complete for it to be carried out by a person skilled in the art since it is absolutely clear that the additional slide "6" does not serve to open and close an outlet from the separation chamber "7", serving only to control the liquid level in the annular chamber "9" by occupying different volumes in the annular chamber "9". The additional slide "6" only acts **indirectly** on the annular slide "5" and its corresponding openings "8".

Summarising the above considerations the mechanism of how the annular slide "5" is activated to act as a valve can be seen from the teaching of Claim 1, though the precise manner in which the slide "6" is carried out and activated is not defined in Claim 1. The Board is in agreement with the Appellant that Claim 1 contains the essence of the invention, namely the provision of an additional slide which controls the liquid level in the annular chamber; the Appellant must be allowed to

maintain a **broad** independent claim even when it contains a functional definition of a feature **as long as a skilled person** obtains enough information to understand the principal concept of the claim.

5. In the Statement of Grounds of Appeal, see page 4 first paragraph, the Appellant argues that a skilled reader is aware from the description in conjunction with the drawing of how the additional slide can be moved hydraulically or would be aware that different arrangements are possible for moving an additional slide, (see GB-A-2 117 221 especially Figures 1 and 2 as an embodiment for moving an additional slide wholly hydraulically, or Figure 3 for a combination of hydraulically moving combined with springs, or see US-A-3 550 843 or US-A-4 510 052 which illustrate centrifugal separators with additional slides which are moved hydraulically and mechanically). Equivalent means would be pneumatic and mechanical systems so that all these possibilities are within easy reach of a skilled person.

The Board comes therefore to the conclusion that Claim 1 contains enough information for a skilled person to understand the essence of the invention so that it is not necessary to claim in detail any specific alternatives for the construction of the additional slide and its manner of activation, since neither Article 84 nor Article 83 EPC requires such a restriction to the independent claim.

6. Under these circumstances the Board holds that Claim 1 is not open to objections under Article 84 and 83 EPC and that this claim can form a reliable basis to carry out an examination of the questions of novelty and

inventive step of its subject-matter which examination has to be completed by the Examining Division, Article 111(1) and (2) EPC.

**Order**

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

1. The decision under appeal is set aside.
2. The case is remitted to the first instance for further prosecution.

The Registrar:



N. Maslin

The Chairman:



C. T. Wilson

