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Datasheet for the decision of 26 April 2010

Case Number: T 2027/08 - 3.2.05

Application Number: 04769694.3

Publication Number: WO 2005/035995

IPC: F15D 1/06

Language of the proceedings: EN

Title of invention:
Fluid phase distribution adjuster

Applicants:
KVAERNER PROCESS SYSTEMS A.S.
SINTEF ENGERGIFORSKNING AS

Headword:
-

Relevant legal provisions:
EPC Art. 123(2)

Relevant legal provisions (EPC 1973):
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Keyword:
"Extension beyond the content of the application as filed (no)"

Decisions cited:
-

Catchword:
-

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Beschwerdekammern | Boards of Appeal | Chambres de recours

Case Number: T 2027/08 - 3.2.05

D E C I S I O N
of the Technical Board of Appeal 3.2.05
of 26 April 2010

Appellants: KVAERNER PROCESS SYSTEMS A.S.
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Decision under appeal: **Decision of the Examining Division of the European Patent Office posted 27 May 2008 refusing European application No. 04769694.3 pursuant to Article 97(1) EPC 1973.**

Composition of the Board:

Chairman: W. Zellhuber
Members: P. Michel
E. Lachacinski

Summary of Facts and Submissions

I. The appellants (applicants) lodged an appeal against the decision of the Examining Division refusing European patent application No. 04 769 694.3.

The Examining Division considered that at least the independent claims of each request did not comply with the requirements of Article 123(2) EPC.

The appellants (applicants) request that the decision under appeal be set aside and that a decision be reached on the basis of claims 1 to 7 of the first auxiliary request as filed on 25 September 2008.

II. Claims 1, 5 and 6 of the sole request read as follows:

"1. A liquid-liquid coalescer apparatus for increasing droplet size of a distributed phase fluid carried by a continuous phase fluid, of a process flow stream in a pipeline, the coalescer apparatus comprising:

a plurality of substantially straight tubes (14;96) arranged so as to divide the process flow stream into a plurality of separate flow paths through corresponding tubes; and

means for imparting a radial acceleration to the fluid flowing through each tube comprising one or more helically twisted longitudinal vanes (24;32,34;48) extending partially or completely across the tube so as to promote coalescence of droplets as a result of movement of the droplets towards or away from a wall of the tube,

wherein said tubes have an area averaged hydraulic diameter D_h*, said flow paths have an averaged flow

length L_f*, and the ratio L_f*/D_h* is in the range 50 to 200 for water continuous flow, and L_f*/D_h* is in the range 10 to 100 for oil continuous flow."

"5. A coalescer according to any preceding claim, wherein the ratio L_f*/D_h* has a design value of about 110 for water continuous flow, and has a design value of about 30 for oil continuous flow."

"6. A method of coalescing droplets of a distributed phase liquid carried by a continuous phase liquid of a process flow stream, the method comprising:

causing the process flow stream to flow into a coalescer unit comprising a plurality of substantially straight tubes (14;96);

dividing the process flow stream into a plurality of separate flow paths through corresponding tubes; and

imparting a radial acceleration to the fluid flowing through the tube so as to coalesce droplets of the distributed phase liquid as a result of movement of the droplets towards or away from a wall of the tube,

wherein each tube comprises one or more helically twisted longitudinal vanes extending partially or completely across the tube, said tubes have an area averaged hydraulic diameter D_h*, said flow paths have an area averaged flow length L_f*, and the ratio L_f*/D_h* is in the range 50 to 200 for water continuous flow, and L_f*/D_h* is in the range 10 to 100 for oil continuous flow."

III. The appellant has argued substantially as follows in the written procedure:

As compared with the claims of the second auxiliary request forming the subject of the decision under appeal, claims 1, 5 and 6 refer to water and oil continuous flow and so are equivalent to the terms used in claim 10 and in the description at page 22, lines 13 to 15 of the application as filed.

The claims of the sole request thus comply with the requirements of Article 123(2) EPC.

Reasons for the Decision

Amendments

1. Independent claims 1 and 6 do not contain the expression "continuously along each tube" as objected to by the Examining Division in the decision under appeal.

2. The values of ratio L_f^*/D_h^* as specified in claims 1, 5 and 6 refer to water and oil continuous flow and are thus consistent with claim 10 and the passage at page 22, lines 13 to 15 of the description of the application as filed (published version).

3. The claims thus satisfy the requirement of Article 123(2) EPC. The Examining Division has not yet had the opportunity of considering the issues of novelty and inventive step. It is accordingly considered appropriate to remit the case to the department of first instance for further prosecution in order to enable consideration of these issues at two instances if necessary.

Order

For these reasons it is decided that:

The decision under appeal is set aside and the matter is remitted to the department of first instance for further prosecution.

The Registrar: The Chairman:

D. Meyfarth W. Zellhuber