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Datasheet for the decision of 19 December 2017

Case Number: T 0916/15 - 3.4.02

Application Number: 00905678.9

Publication Number: 1153269

IPC: G01F1/84

Language of the proceedings: EN

Title of invention:
LATERAL MODE STABILIZER FOR CORIOLIS FLOWMETER

Applicant:
MICRO MOTION INCORPORATED

Headword:

Relevant legal provisions:
EPC Art. 123(2)
EPC 1973 Art. 111(1)

Keyword:
Amendments - main request - extension beyond the content of the application as filed (yes)
Remittal to the department of first instance - for examination of auxiliary request - (yes)

Decisions cited:
G 0003/89, G 0002/10, T 0190/99

Catchword:

Europäisches Patentamt
European Patent Office
Office européen des brevets

Beschwerdekammern

Boards of Appeal

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Case Number: T 0916/15 - 3.4.02

D E C I S I O N
of Technical Board of Appeal 3.4.02
of 19 December 2017

Appellant: (Applicant)	MICRO MOTION INCORPORATED 7070 Winchester Circle Boulder Colorado 80301 (US)
Representative:	Vossius & Partner Patentanwälte Rechtsanwälte mbB P.O. Box 86 07 67 81634 München (DE)
Decision under appeal:	**Decision of the Examining Division of the European Patent Office posted on 12 December 2014 refusing European patent application No. 00905678.9 pursuant to Article 97(2) EPC.**

Composition of the Board:

Chairman	R. Bekkering
Members:	H. von Gronau
	T. Karamanli

Summary of Facts and Submissions

I. The appeal of the applicant is directed against the decision of the examining division to refuse European patent application No. 00905678.9. The examining division refused the application on the sole ground that the subject-matter of claim 1 of the single request filed with letter dated 12 October 2007 extended beyond the content of the application as filed contrary to Article 123(2) EPC.

II. With its statement setting out the grounds of appeal dated 13 April 2015 the appellant filed amended claims according to an auxiliary request. It requested that the decision of the examining division be reversed and a patent be granted on the basis of the claims filed with letter dated 12 October 2007 (main request) or on the basis of the claims filed with the grounds of appeal (auxiliary request). The appellant further requested "*to remit the case to the first instance in case the Board of Appeal should intend to refuse the European patent application based on lack of inventive step*".

As an auxiliary measure oral proceedings were requested.

III. In a communication, annexed to the summons to oral proceedings, the board expressed its provisional opinion that the subject-matter of claim 1 according to the main request extended beyond the content of the application as originally filed contrary to Article 123(2) EPC and that the subject-matter of claim 1 of the auxiliary request did not exhibit this deficiency.

IV. Oral proceedings took place on 19 December 2017.

The appellant withdrew its request for remittal filed with the statement setting out the grounds of appeal and stated that it left the decision on remittal to the discretion of the board.

The appellant confirmed as final requests that it requested that the decision under appeal be set aside and that a patent be granted on the basis of the claims of the main request filed with letter dated 12 October 2007 or the auxiliary request filed with the statement setting out the grounds of appeal dated 13 April 2015.

At the end of the oral proceedings the chairman announced the board's decision.

V. Claim 1 according to the main request reads as follows:

"A Coriolis flowmeter:
a flow tube (303) for receiving a material flow;
a balance bar (302) coupled to said flow tube;
a driver (D) that vibrates said flow tube and said balance bar in a drive plane in phase opposition to each other;
said vibrations in said drive plane and said material flow are jointly effective for inducing Coriolis deflections of said flow tube;
pick off means (LS, RS) coupled to said flow tube that detect said Coriolis deflections;
said pick off means generate signals representing information pertaining to said material flow in response to said detection of said Coriolis deflections;

meter electronics (316) that receive said signals from said pick off means and generates output information pertaining to said material flow;
said Coriolis flowmeter is subject in operation to the presence of unwanted lateral vibrations of said flow tube in a plane substantially perpendicular to said drive plane;
said lateral vibrations generate unwanted signals in said pick off means;
said unwanted signals make difficult the processing of said pick off signals representing said Coriolis deflections when the frequency separation between said drive frequency and said lateral vibrations is less than a desired amount;
Characterized by:
lateral mode stabilizer means (101) coupled to said flow tube and said balance bar;
a ring element (204) on said lateral mode stabilizer means having a circular opening (115) for receiving said flow tube;
a first and a second lateral extension (108) on said lateral mode stabilizer means extending axially inward from said ring element towards a longitudinal center of said flow tube along the lateral sides of said flow tube;
said lateral mode stabilizer means alters the frequency of said lateral vibrations to a greater extent than said drive vibrations and thereby increases the frequency separation between said drive frequency vibrations and the frequency of said lateral vibrations so that said separation is greater than said desired amount in order to facilitate the processing of said Coriolis signals by said meter electronics."

VI. Claim 1 according to the auxiliary request reads as follows:

"A Coriolis flowmeter:
a flow tube (303) for receiving a material flow;
a balance bar (302) coupled to said flow tube;
a driver (D) that vibrates said flow tube and said balance bar in a drive plane in phase opposition to each other;
said vibrations in said drive plane and said material flow are jointly effective for inducing Coriolis deflections of said flow tube;
pick off means (LS, RS) coupled to said flow tube that detect said Coriolis deflections;
said pick off means generate signals representing information pertaining to said material flow in response to said detection of said Coriolis deflections;
meter electronics (316) that receive said signals from said pick off means and generates output information pertaining to said material flow;
said Coriolis flowmeter is subject in operation to the presence of unwanted lateral vibrations of said flow tube in a plane substantially perpendicular to said drive plane;
said lateral vibrations generate unwanted signals in said pick off means;
said unwanted signals make difficult the processing of said pick off signals representing said Coriolis deflections when the frequency separation between said drive frequency and said lateral vibrations is less than a desired amount;
Characterized by:
lateral mode stabilizer means (101) coupled to said flow tube and said balance bar, wherein said lateral mode stabilizer means includes:

a first lateral mode stabilizer (101) that couples a first end of said balance bar (302) to a first wall portion of said flow tube (303);
a second lateral mode stabilizer (101) that couples a second end of said balance bar to a second wall portion of said flow tube;
a ring element (204) on each lateral mode stabilizer having a circular opening (115) for receiving said flow tube;
a first and a second lateral extension (108) on said lateral mode stabilizer extending axially inward from said ring element towards a longitudinal center of said flow tube along the lateral sides of said flow tube;
said lateral mode stabilizer means alters the frequency of said lateral vibrations to a greater extent than said drive vibrations and thereby increases the frequency separation between said drive frequency vibrations and the frequency of said lateral vibrations so that said separation is greater than said desired amount in order to facilitate the processing of said Coriolis signals by said meter electronics."

Reasons for the Decision

1. Main request - claim 1 - added subject-matter (Article 123(2) EPC)

1.1 In the contested decision the **examining division** stated that the "ring element" introduced in claim 1 was only disclosed in a pairwise configuration in the originally filed application, as defined e.g. in original claims 3 and 4. Claim 1 omitted the feature of having first and second lateral mode stabilizers, contradicting the requirements of Article 123(2) EPC.
The passage on page 10, lines 27 to 29, of the description as originally filed only referred to the

lateral mode stabilizer element shown in figures 1 and 2. In view of the application as a whole, that type of lateral mode stabilizer element was foreseen to be used in an arrangement as shown in figures 3 - 8, referring also to page 10, lines 7-8. No other possibility to use that lateral mode stabilizer element was disclosed in the application.
Original claim 1 or page 5, line 20 to page 6, line 13, referring to "lateral mode stabilizer means", did not support the use of a single stabilizer element as shown in figures 1 and 2.
Rather, in view of the whole disclosure of the present application, the stabilizer elements used pairwise as shown in figures 3 - 8 had to be identified with the "stabilizer means" according to original claim 1 (or page 5, line 20 to page 6, line 13). This view was also corroborated by original claims 3 and 4.

1.2 In the grounds of appeal the **appellant** put forward that the original application showed in figures 1 and 2 “the lateral mode stabilizer provided in accordance with the present invention” (see page 9, lines 19 and 20 of the description). Figures 1 and 2 were described to show the lateral mode stabilizer means (101) recited in original independent claim 1. Original independent claim 1 further specified that the lateral mode stabilizer means, i.e. the one shown, for example, in figure 1 or 2, "alters" (singular!) the frequency of the lateral vibrations.
Page 10, lines 3 to 6, further explained that the present invention “comprises a Coriolis flow meter embodying the lateral mode stabilizer of the present invention”. Lines 6 and 7 on page 10 specified that the lateral mode stabilizer was shown in figures 1 and 2. From this passage of the original description, taken in conjunction with original independent claim 1 and

figures 1 and 2, a skilled person unambiguously took that the lateral mode stabilizer means (101) recited in independent claim 1 might correspond to one single unit, as it was shown in figure 1 or 2. The additional embodiments of the original description which showed that a pair of those units might be used, as shown for example in figures 3, 6, and 7, were understood by a skilled person as exemplary embodiments. This did not mean that only the pairwise configurations could be chosen. There was no such teaching in the original application.

During the oral proceedings the appellant pointed, in addition to the title, to page 3, lines 26 - 29, page 4, first full paragraph and lines 26 - 29, page 5, lines 10 - 16 and page 15, lines 12 - 23, of the application as originally filed. It put forward that the original application documents disclosed a lateral mode stabiliser as shown in figures 1 and 2. The language of the application was not so precise and alternative expressions were used for the lateral mode stabilizer (lateral mode stabilizer means, lateral mode stabilizer element) which expressions all defined the same lateral mode stabilizer. Starting from the problem mentioned in the application the invention achieved control of the lateral vibration frequencies by the use of a concentric ring affixed over the flow tube with lateral extensions on the ring contacting the flow tube on each of its sides as disclosed on page 5, lines 10 - 16. Also for the purposes of Article 123(2) EPC, the person skilled in the art had to read the application as originally filed with a mind willing to understand the disclosed invention. When reading the present application as filed with a mind willing to understand, it became clear that already one lateral mode stabilizer on the flow tube solved the mentioned problem. The person skilled in the art would not merely

stick to linguistic terms but would rather understand that the gist of the claimed invention consisted in applying a lateral mode stabilizer on the flow tube. Therefore, it was clear that, on page 5, line 11, a concentric ring was affixed over one end of the flow tube and that the plural form of "ends" was inconsistent. Furthermore, after having disclosed the examples with two lateral mode stabilizer means in relation to figures 3 to 8, the application further disclosed on page 15, lines 12 - 23, that all kind of modifications of the flow tube were possible including the number of the lateral mode stabilizers.

1.3 The **board** takes the view that, in the original application documents, there is no disclosure that a single ring element is on the lateral mode stabilizer means.

1.3.1 According to established jurisprudence, under Article 123(2) EPC, an amendment to a claim can only be made within the limits of what a skilled person would derive directly and unambiguously, using common general knowledge, and seen objectively and relative to the date of filing, from the whole application (cf. G 3/89, OJ EPO 1993, 117, points 1.3 and 3 of the Reasons, confirmed by G 2/10, OJ EPO 2012, 376, point 4.3 of the Reasons). In the board's view, however, the jurisprudence of the boards of appeal referring to "a mind willing to understand" does not apply for the purpose of assessing the allowability of amendments under Article 123(2) EPC, i.e. whether an amended feature of a claim is disclosed in the application as filed. According to decision T 190/99, when **interpreting a claim**, the person skilled in the art should try, with synthetical propensity, i.e. building up rather than tearing down, to arrive at an

interpretation of the claim which is technically sensible and takes into account the whole disclosure of the **patent**. The **patent** must be construed by a mind willing to understand, not a mind desirous of misunderstanding (see decision T 190/99, point 2.4 of the Reasons, and Case Law of the Boards of Appeal, 8th edition 2016, Chapters II.A.6.1 and II.E.2.3.3). It follows from this jurisprudence that the concept of "a mind willing to understand" applies where it is necessary to interpret a claim of a **granted patent** for the purposes of Article 123(3) EPC and Article 69 EPC. Accordingly, in the board's view, an interpretation of a claim of a **granted patent** which is illogical or which does not make sense should be ruled out.

This is, however, not the issue at stake in the present case where it has to be determined for the purposes of Article 123(2) EPC whether a person skilled in the art would derive directly and unambiguously, using common general knowledge, the subject-matter of the **amended claim** of the patent from the whole application as originally filed. Hence, in the board's view, the appellant's argument on this point must fail.

1.3.2 In the originally filed **claims** the expression "lateral mode stabilizer means" is used for the overall arrangement of the stabilizer including a "first lateral mode stabilizer" and a "second lateral mode stabilizer" (cf. claim 3). Each lateral mode stabilizer comprises a ring element (cf. claim 3).
The board comes therefore to the conclusion that only one ring element on said lateral mode stabilizer means is not disclosed in the original claims.

1.3.3 In the **description** relating to the figures of the application as filed the expression "lateral mode

stabilizer means" does not appear. Moreover, the expressions "lateral mode stabilizer" and "lateral mode stabilizer element" are not used consistently throughout the description.
On page 9, lines 19 - 20, it is only stated that figures 1 and 2 disclose the lateral mode stabilizer and on page 10, lines 27 - 29, it is disclosed that "*On figure 2, lateral mode stabilizer element 101 has an exterior surface which may be functionally dividable into a ring element 204 and the pair of lateral extensions 108 having outer surfaces 205*".

The board notes that at the beginning of the detailed description on page 10 the lateral mode stabilizer is introduced in relation with figures 1 and 2 as a single element but later a flow tube with two lateral mode stabilizer elements are disclosed. Figures 3 to 8 show the lateral mode stabilizer embodied in pairs on a straight tube Coriolis flow meter. The description states with respect to figure 3 that the flow tube is joined at the left and right ends of balance bar 302 to lateral mode stabilizer element 101 (cf. page 11, lines 4 - 6). A lateral mode stabilizer element 101 is shown on both ends in Figure 3. On page 13, lines 3 - 4, it is said that the lateral mode stabilizer element 101 is shown coupled to each end of balance bar 302. On page 13, lines 10 - 11, it is disclosed that lateral mode stabilizer 101 is shown coupled to the left and right ends of balance bar 302. In the following passages of the description, it is stated that "*the presence of lateral mode stabilizer 101 enables the vertical vibrations of the flow tube*" (cf. page 13, lines 20 - 22). This statement is understood to relate to the lateral mode stabilizer 101 coupled to the left and right ends of the balance bar.

Even in the general introduction of the solution according the present invention on page 5, lines 10 - 16, it is stated that the "*apparatus and method of the present invention achieves control of the lateral vibration frequencies by the use of a concentric ring affixed over the ends of the flow tube with lateral axial extensions on the ring contacting the flow tube on each of its sides*" (emphasis added by the board). Thus there is a disclosure in the application as filed that the concentric ring is affixed over the ends, but no disclosure that a ring is affixed over one end of the flow tube only.

Also the summary portion of the description on page 15, lines 12 - 23, does not present another teaching. It refers to the foregoing description and states that "*the provision of a lateral mode stabilizer in a flowmeter provides increased frequency separation*". It further states that the invention is not limited to a single straight tube Coriolis flowmeter, but may be used with other types of Coriolis flowmeters including single tube flowmeters of irregular or curved configuration as well as Coriolis flowmeters having a plurality of flow tubes. This portion does, however, not address any modifications or alterations of the lateral mode stabilizer.

In summary, in the board's judgement there is no disclosure in the description or the figures as originally filed that only one ring element is on the lateral mode stabilizer means.

1.3.4 The board concludes therefore that amended claim 1 according the main request does not meet the requirements of Article 123(2) EPC.

2. Auxiliary request

2.1 Claim 1 of the auxiliary request defines that the lateral mode stabilizer means includes a first lateral mode stabilizer that couples a first end of said balance bar to a first wall portion of said flow tube, and a second lateral mode stabilizer that couples a second end of said balance bar to a second wall portion of said flow tube. These features are, in combination, disclosed in claim 3 of the original application. The objected feature that a ring element is on the lateral mode stabilizer means has been deleted. The board, therefore, takes the view that claim 1 of the auxiliary request filed with the statement setting out the grounds of appeal dated 13 April 2015 overcomes the single ground for refusal under Article 123(2) EPC raised in the decision under appeal and that, therefore, the decision under appeal can be set aside and the present case be remitted under Article 111(1), second sentence, EPC 1973 to the department of first instance for further prosecution.

2.2 The appellant argued that, in view of the circumstances, special reasons spoke against a remittal of the present case to the examining division, in particular the length of the proceedings to date and the considerable further delay which would ensue from a remittal. Additionally, it put forward that, contrary to what was written in the statement setting out the grounds of appeal, the examining division had evidently dealt with an inventive step objection in its communication dated 30 May 2007, even though it had raised no objection of lack of inventive step in its communication annexed to the summons or in the decision under appeal.

2.3 According to Article 111(1), second sentence, EPC 1973 the board of appeal may either exercise any power within the competence of the department which was responsible for the decision appealed or remit the case to that department for further prosecution. An absolute right for the parties to have the present case remitted to the department of first instance does not follow from this provision of the EPC. Rather it confers discretionary power to the board, under due consideration of all circumstances of the case, whether or not to remit the case to the department of first instance.

2.4 In the present case the appellant filed the auxiliary request for the first time with the grounds of appeal. The board is now in the situation to decide whether it should further examine and decide on the new subject-matter for the first time on appeal or whether it should remit the case to the department of first instance for further prosecution.
The examining division proposed how the deficiency of added subject-matter could be resolved and pointed to dependent claims 3 and 4 (cf. communication accompanying the summons to attend oral proceedings dated 14 August 2014, point 2) but it did not express in the contested decision an opinion on novelty and inventive step concerning the corresponding subject-matter. The International Preliminary Examination Report identified in document D2 a Coriolis flowmeter with lateral mode stabilizer means and pointed to figure 12, reference 1202, and concluded that the subject-matter of original claim 1 lacked an inventive step in view of documents D2 and D1. With respect to the dependent claims the Report only stated very generally that they did not contain features which involved an inventive step. In the communication dated

30 May 2007, the examining division remarked under point 6.1 that the ring elements affixed to both balance bar and flow tube were not hinted at by the current available prior art. However, there is no clear statement from the examining division indicating whether the current claims of the auxiliary request might be allowable.

3. Lastly, the board points out that it has only ruled that amended claim 1 of the present auxiliary request overcomes the sole ground for refusal under Article 123(2) EPC which was raised by the examining division. However, the board has not examined whether further objections under Article 123(2) EPC would have to be raised against any of the amended claims. Nor has the board taken into consideration other requirements of the EPC. These issues will have to be dealt with by the examining division after remittal.

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 for further prosecution.

The Registrar: The Chairman:

S. Sánchez Chiquero R. Bekkering

Decision electronically authenticated