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**Datasheet for the decision  
of 5 June 2014**

**Case Number:** T 0322/13 - 3.3.05

**Application Number:** 07766244.3

**Publication Number:** 2046476

**IPC:** B01D46/10, B01D46/00

**Language of the proceedings:** EN

**Title of invention:**

VACUUM CLEANER FILTER ASSEMBLY

**Patent Proprietor:**

Dyson Technology Limited

**Opponent:**

Manley, Nicholas Michael

**Headword:**

Filter assembly/Dyson

**Relevant legal provisions:**

EPC Art. 56

RPBA Art. 13(1)

**Keyword:**

Inventive step - main request (no) -  
disadvantageous modification  
Late-filed auxiliary request - admitted (no)

**Decisions cited:**

T 0119/82

**Catchword:**



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Case Number: T 0322/13 - 3.3.05

**D E C I S I O N**  
**of Technical Board of Appeal 3.3.05**  
**of 5 June 2014**

**Appellant:** Dyson Technology Limited  
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**Decision under appeal:** **Decision of the Opposition Division of the  
European Patent Office posted on 4 December 2012  
revoking European patent No. 2046476 pursuant to  
Article 101(3) (b) EPC.**

**Composition of the Board:**

**Chairman** G. Rath  
**Members:** G. Glod  
D. Prietzel-Funk

## **Summary of Facts and Submissions**

- I. The present appeal lies from the decision of the opposition division to revoke European patent EP-B-2 046 476.

The opposition division found that the patent as granted (main request) was not based on an inventive step and that claim 1 of the auxiliary request did not meet the requirements of Article 123(2) EPC.

- II. The documents cited during the opposition proceedings included the following:

D4: JP 2004 089 982

D10: GB-A-2 349 105

- III. The patent proprietor (hereinafter: appellant) filed an appeal against said decision and submitted grounds for the appeal.

- IV. The opponent (hereinafter: respondent) did not reply to the statement of grounds of appeal or to the further letters sent in the appeal proceeding.

- V. In its communication under Article 15(1) of the Rules of Procedure of the Boards of Appeal (RPBA), the Board expressed its preliminary non-binding opinion that the main request lacked an inventive step in view of D10 in combination with D4. A copy of the machine translation of D4 was attached to the communication. Claim 1 of the auxiliary request was found not to be unambiguously derivable from the original application.

VI. By letter dated 2 May 2014, the appellant submitted a new auxiliary request to replace the auxiliary request on file.

VII. Oral proceedings took place on 5 June 2014.

As it had announced previously, the respondent did not attend the oral proceedings. During oral proceedings the appellant showed a model of a filter according to the invention. In addition it submitted a new main and auxiliary request replacing the requests on file.

VIII. Claim 1 of the new **main request** reads as follows:

*"1. A vacuum cleaner filter assembly (10) comprising a plurality of filter portions (14), (16) delimited by, and held adjacent one another by a deformable rim (12) formed around the edges of the filter portions (14, 16), characterized in that the filter assembly is a one piece filter and the filter assembly (10) has a tab (28) located on a surface thereof, the tab (28) is arranged to facilitate handling and washing of the filter assembly (10), wherein the plurality of filter portions (14, 16) includes a first filter portion (14) formed from a non-woven or foam medium, and wherein the plurality of filter portions includes a second filter portion (16) formed from an open weave or mesh material."*

Claim 1 of the new **auxiliary request** reads as follows:

*"1. A vacuum cleaner filter assembly (10) comprising first, second and third filter portions (14, 16, 18) delimited by, held adjacent one another and bounded by a deformable rim (12), wherein in use, the vacuum cleaner filter assembly is placed in the airflow path*

*of a vacuum cleaner having a motor and fan assembly, upstream of the motor and fan assembly the second filter portion is downstream of the first filter portion and the third filter portion is upstream of the first filter portion, the tab (28) comprises a flexible strand or flap having a securing portion (28b) at one end and a gripping portion (28c) at the other end wherein the securing portion (28b) is fixed or attached to the filter assembly (10) by attachment to a filter portion or by sealing within the rim (12) during manufacture of the assembly and is arranged to facilitate handling and washing of the filter assembly (10), wherein the plurality of filter portions (14, 16) includes a first filter portion (14) formed from a non-woven or foam medium, and wherein the plurality of filter portions includes a second filter portion (16) formed from an open weave or mesh material."*

IX. The arguments of the appellant can be summarised as follows:

The technical problem to be solved was to avoid the incorrect replacement of the filter layers within a filter assembly for subsequent replacement within the appliance and to avoid the incomplete washing of all of the filter layers by the user.

The solution was to provide a filter assembly as a one-piece unit which was removed from an appliance using a tab.

Given these presumptions, the opposition division did not apply the correct approach in defining the closest prior art and was wrong in considering D3 and D4 as a suitable starting point. When selecting the closest prior art, the skilled person would choose a document

that disclosed the same purpose or effect as the invention.

The purpose of the filters of D3 and D4 differed from the one as claimed in claim 1 of the patent as granted.

Rather, D10 had to be considered as closest prior art, since it had a purpose similar to that of the filter assembly according to claim 1 of the patent in suit and since it solved a similar technical problem. D10 disclosed a tab used to remove a part of a filter assembly from another part. It disclosed neither a deformable rim around the edges of the filter portions nor a one-piece filter assembly.

None of documents D1 to D9 disclosed a one-piece filter assembly having a tab located on the surface of a filter assembly arranged to facilitate handling and washing of the filter assembly. In particular, D4 did not disclose the feature relating to a plurality of filter portions delimited, and held adjacent one another by a deformable rim formed around the edges of the filter portions. In D4 each filter portion had an individual flexible frame and was individually removed from the rigid casing.

From here it followed that claim 1 was based on an inventive step since D10 did not provide a similar solution to claim 1 of the patent as granted.

The features of the auxiliary request were all derivable from the application as filed. In addition, the position of the filter portions was clear in view of the position of the assembly in the vacuum cleaner.

X. Requests:

The appellant requests that the decision under appeal be set aside and that the patent be maintained on the basis of the claims according to the main request or to the auxiliary request, both requests having been submitted during oral proceedings before the board.

**Reasons for the Decision**

Main request

1. Article 13 RPBA

The Board decided to admit the new main request into the proceedings, since it does not raise any new issues.

2. Article 100(a) EPC: Inventive step

2.1 The invention relates to a filter assembly designed and adapted for use in a vacuum cleaner (see paragraph [0001]).

2.2 It is established jurisprudence that the closest prior art is normally a prior-art document disclosing the same purpose or aiming at the same objective as the claimed invention and having the most features in common with the claimed subject-matter.

D10 is considered as closest prior art, since it also relates to vacuum cleaner filters and to the easy and hygienic removal of the filter from the filter housing (see page 1, third paragraph). It discloses a filter assembly comprising a filter housing, a first filter portion and a second filter portion. The filter housing



is cylindrical in shape and has a cylindrical outer wall which is adapted to receive the first and second filter portions. A cylindrical sleeve is located inwardly of the cylindrical outer wall. A central gripping portion is provided on or within the cylindrical sleeve. The central gripping portion essentially comprises a generally cylindrical portion with a plate-like portion extending therefrom along the axis of the filter housing. The plate-like portion provides a user with the means to grasp the connector portion in order to insert the filter assembly into the appliance in which it is to be used, or to remove it therefrom (see page 4, fourth paragraph to page 5, line 1; figures 1a, 1b, 2).

The first filter portion is made from a foam filter medium in the form of a cylindrical disc having a central aperture (page 5, penultimate and last line).

The second filter portion consists of an electrostatic filter medium covered on both sides by a protective fabric (page 6, third paragraph, lines 1 to 3).

The first filter portion is removed from the filter assembly for washing by the user gripping the gripping portion and pulling the tab outwardly from the filter assembly (figure 1b). In this way, the user does not have to handle the clogged first filter portion directly. This makes replacing or cleaning the first filter portion a more hygienic task (see page 8, first full paragraph, lines 4 to 8). The second filter portion is either bonded or not to the filter housing (see page 8, first full paragraph, lines 8 to 12).

2.3 According to the patent in suit, the problem was to provide a filter assembly which avoids the disadvantage

of returning the filter assembly incorrectly to the vacuum cleaner (column 1, lines 51 to 53 and column 2, lines 11 to 15) and "in which it is easier to clean the filter assembly by washing, and, after drying, easier to return the filter assembly to the vacuum cleaner for further use" (column 2, lines 3 to 7 of patent in suit).

2.4 As a solution to this problem the patent in suit proposes a vacuum cleaner assembly according to claim 1 characterised in that the filter assembly is a one-piece filter assembly and the filter portions are held adjacent one another by a deformable rim formed around the edges of the filter portions.

2.5 As to the success of the solution, the board is satisfied that indeed pulling the tab allows the one-piece filter assembly to be removed in one go. The user can also put it back in a correct manner without making a mistake with different filter portions.

However, the board has concerns about the cleaning step.

It is plausible that, with respect to the time needed and the amount of work, there is an advantage to flush water through the one-piece filter assembly comprising a plurality of filters rather than to flush water through several individual filters. The specific point at issue is the cleaning performance. A distinction has to be drawn between cleaning and washing.

When several filter portions are washed individually, the dirt is removed from each side of the filter portion so that all of them are clean. However, in the case of a one-piece filter assembly comprising a

plurality of filter portions, it is difficult or even impossible to remove the dirt trapped in the middle of a one-piece filter assembly "comprising a plurality of filter portions delimited by and held adjacent one another by a deformable rim" (column 2, lines 16 to 18). In comparison with a filter assembly comprising detachable filter portions, it is not credible that improved cleaning of the filters is obtained.

A one-piece assembly does not allow the different filter layers to be cleaned as well as if each filter can be removed and cleaned individually. All types of dust entrapped in the central filter portion such as filter portion 14 shown in figure 1b of the patent in suit cannot be removed by simple washing of the whole filter assembly. An improved cleaning would require taking apart each filter portion. Dust is not only composed of water-soluble components.

2.6 It is thus not credible that washing allows substantial removal of dust particles from filter portions that are not directly accessible. Therefore, a one piece filter requires more frequent filter replacements than a filter assembly comprising detachable filter portions. In other words, when comparing a one piece filter with a filter assembly comprising detachable filter portions, for the same frequency of filter replacement, the performance of the one piece filter would decrease.

2.7 The appellant argued that in the prior art often only one of the filter layers was washed by the user instead of all of them. According to the assembly of the invention, all layers were washed at the same time. However, this advantage does not outweigh the disadvantage of insufficient cleaning.

The skilled person can clearly see why a one-piece filter assembly has its predictable disadvantages.

Thus, the problem has to be reformulated and is seen in the provision of a filter assembly that is easily removed from and returned to a vacuum cleaner and that is easily washed. This problem is indeed solved.

2.8 It needs to be determined whether the solution to the problem is obvious in view of the prior art.

The skilled person trying to find a solution to the posed problem turns to documents relating to the removal and cleaning of air filters from an appliance.

D4 (see machine translation of JP2004089982) relates to air filters. It aims at providing an air filter that can be easily attached to and removed from the casing for removing the dust from the filter (see paragraphs [0001] and [0004]). Therefore, the skilled person considers the teaching of D4 when trying to solve the posed problem.

D4 discloses a filter assembly that is made from a flexible filter and a flexible frame (see figure 1 and paragraph [0017]). It can be easily removed for washing and put back into the filter housing (see paragraph [0031]). The filter itself can be made from a pre-filter and a flexible corrugated filter (see paragraph [0026]). Working examples 8 to 10 (see paragraphs [0077] to [0079] disclose that the flexible filter and the pre-filter are combined and put in a casing made from aluminum. In view of this combination, the pre-filter and the flexible filter are held together by a common flexible frame.

This combination is corroborated by figures 9 and 11 of D4. In figure 9, the flexible pleated filter and the flexible corrugated filter each have an individual flexible frame shown by the reference signs 3 and 6, respectively. In figure 11, the pre-filter 7 does not have a flexible frame so that when combining it with the flexible filter 2, the frame 3 of that filter will also cover the edge of the pre-filter.

The filters according to the working examples of D4 can be repeatedly easily removed and washed (see paragraph [0106]).

The skilled person learns from D4 that a filter assembly suitable as an air filter comprising a filter or a filter and a pre-filter within a flexible frame can be easily taken out and washed.

As a consequence of the teaching of D4, the skilled person considers such a flexible frame as a suitable means for use in a filter assembly according to D10 to ensure that the first and second filter can be easily removed for washing and put back together in the filter housing.

Neither D4 nor D10 concerns a one-piece filter assembly. However, as explained under point 2.5 above, such a one-piece assembly is a disadvantageous modification of a filter assembly having individually removable portions. Obviousness is not only at hand when the skilled man would have seen all the advantages of acting in a certain manner but also when he could clearly see why he should not act in a certain manner in view of its predictable disadvantages. In agreement with T 119/82 (Reasons 16), such a disadvantageous modification cannot involve an inventive step.

Even if it was indicated in claim 1 that the rim was pliable, flexible and resilient so that the entire filter assembly is capable of being bent and squashed, like the one shown to the Board during oral proceedings, it would still not be credible that all the filter portions could be cleaned as set out above under point 2.5.

- 2.9 The subject-matter of claim 1 of the main request therefore lacks an inventive step in view of D10 in combination with D4.

#### Auxiliary request

3. Article 13(1) RPBA

3.1 This request was submitted during oral proceedings before the Board in an attempt to overcome objections to the request filed one month before the oral proceedings. When exercising its discretion whether to admit this request into the proceedings, the Board notes that claim 1 raises new issues under both Article 123(2) EPC and Article 84 EPC.

3.2 In fact, claim 1 is based on the first embodiment described on page 7 of WO-A-2008015377 in combination with the description of the tab on page 10, second paragraph. However, the rim that delimits the filter assembly is disclosed to be cylindrical in shape and to be adapted to be pliable, flexible and resilient. These features are not part of claim 1, although they appear necessary to facilitate handling and washing of the filter assembly in case of three filter portions.

The extraction of some features from the description of

the first embodiment leads to subject-matter that is not disclosed as such in the original application. Therefore the subject-matter of claim 1 is not unambiguously derivable from the original application.

- 3.3 Claim 1 relates to a filter assembly and thus to a physical entity. However, the set-up (sequence of filter portions) of the filter is defined by reference to its use in a different physical entity (vacuum cleaner). Claim 1 does not relate to the vacuum cleaner comprising different components such as the filter.

The exact same filter assembly having all the structural features given in claim 1 (three filter portions and flap) allows contradicting interpretations: the assembly could, depending on how it was placed in the vacuum cleaner, be considered to meet the requirements of a filter according to claim 1 or not to meet them. Therefore, the subject-matter of claim 1 lacks clarity.

For these reasons, the request is not admitted under Article 13(1) RPBA.

**Order**

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

The appeal is dismissed.

The Registrar:

The Chairman:



C. Vodz

G. Rath

Decision electronically authenticated