

United States District Court,  
D. Massachusetts.

**HAEMONETICS CORP,**  
Plaintiff.

v.

**BAXTER HEALTHCARE CORP. et al,**  
Defendants.

Civil Action No. 05-12572-NMG

**Aug. 16, 2007.**

**Background:** Patentee sued competitors, alleging infringement of patent for continuous centrifugal system to separate and collect blood components.

**Holdings:** The District Court, Nathaniel M. Gorton, J., held that:

- (1) terms "first drive units" and "second drive units" did not include the tubes or vessel;
- (2) phrase "centrifugal unit" referred exclusively to the vessel itself; and
- (3) phrase "channels extending radially in the base" meant channels extending radially in or on the base.

Claims construed.

6,705,983. Construed.

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## **MEMORANDUM & ORDER**

**NATHANIEL M. GORTON, District Judge.**

The plaintiff, Haemonetics Corporation ("Haemonetics") alleges infringement of United States Patent No. 6,705,983 ("the '983 patent") by defendants, Baxter Healthcare Corporation and Baxter International Inc. (collectively, "Baxter") and Fenwal, Inc. ("Fenwal"). FN1 The '983 patent describes a method and

apparatus for the separation and collection of blood components through a continuous centrifugal system. On July 13, 2007, the Court held a Markman hearing at which the parties offered arguments in support of their respective claim construction briefs regarding the disputed terms. The following is the Court's ruling with respect to those terms.

FN1. On March 27, 2007, the parties filed an assented to motion for joinder of Fenwal as a defendant because it is an independent corporation formed by Baxter after the complete divestiture of its transfusion therapies business.

## ***I. Background***

The patent at issue involves a process known as centrifugation. In brief, centrifugation involves the placement of a fluid sample (e.g. blood) within a container or vessel which is then rotated at high speed, exerting a centrifugal force on the fluid. That force, a gravity-like pull, separates the fluid's components based on their different densities and rates of settling. The result is a series of separate layers radiating from the center that corresponds to the different densities of the fluid's components.

Since the 1970s, new developments have supplemented this basic centrifugation process and enabled continuous centrifuges. Continuous centrifuges allow for the addition and withdrawal of materials from the vessel while the device is in operation. A rubber tube, containing numerous smaller channels, connects the spinning vessel with a non-rotating support structure, forming a question mark shape around the vessel. The tube permits the transportation of particular components in and out of the centrifugal container. Because the vessel is rotating at a rate of two ( $\omega$ ), the rubber tube also needs to spin in order to prevent twisting and breakage. The rubber tube passes through an aperture outside of the vessel which is connected to a shaft rotating at a rate of one ( $\omega$ ), half the speed of the vessel.

Jean-Denis Rochat, a Swiss engineer, developed a system whereby a blood separation device utilizes this continuous centrifuge process to remove blood from a donor, extract the desired components and return the remainder to the donor in a continuous flow. While neither the continuous centrifuge process nor the one ( $\omega$ ): two ( $\omega$ ) ratio concept was new, its application to blood donation (apheresis) using a small, lightweight and disposable method was developed by Rochat and is the subject of the patent. The patent's specific contribution to the field is the particularly small diameter and height of the vessel and tubing which minimizes the size and weight of the device and balances the stresses placed on the tubing.

The '983 patent has a total of 22 claims. In this pending suit, there are only two groups of claims at issue: 1) independent Claim 1 and its dependent Claims 2-7 and 9 and 2) independent Claim 16 and its dependent Claims 17-19.

The application for the patent was first filed in the European Patent Office on April 9, 1999. It was then subsequently filed as an international Patent Cooperation Treaty ("PCT") application on April 7, 2000. In order to bring the claims into conformity with the United States Patent Office practice, the PCT application was first translated from the original French into English. During the amendment process, various changes were made to clarify the terminology and respond to objections. The claims were then amended again into their present form as Claims 1-22. On March 16, 2004, patent number 6,705,983 was issued by the United States Patent Office.

Haemonetics asserts that in or about 2003, Baxter began offering and selling a blood component collection system known as the Alyx System which includes a centrifugal device.

## **II. Analysis**

### **A. Legal Standard**

In analyzing a patent infringement case, a Court must 1) determine the meaning and scope of the patent claims asserted to be infringed and 2) compare the properly construed claims to the infringing device. *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 976 (Fed.Cir.1995)( *en banc* ), *aff'd*, 517 U.S. 370, 116 S.Ct. 1384, 134 L.Ed.2d 577 (1996). The first step, known as claim construction, is an issue of law for the court to decide, while the second step is determined by the finder of fact. *Id.* at 979.

Courts are to give claim terms "their ordinary and customary meaning." *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed.Cir.2005)( *en banc* )(quoting *Vitronics Corp. v. Conceptoronic, Inc.*, 90 F.3d 1576, 1582 (Fed.Cir.1996)). The Court's responsibility is to determine the meaning of claim terms as they would be understood by persons of ordinary skill in the relevant art. *Bell Atlantic Network Serv., Inc. v. Covad Comm. Group, Inc.*, 262 F.3d 1258, 1267 (Fed.Cir.2001). Where the ordinary meaning of a claim is not apparent, there is a hierarchy of sources to aid in the court's claim construction: 1) intrinsic evidence (i.e., the words themselves, specification and prosecution history) and 2) extrinsic evidence (e.g., dictionaries and treatises). *Phillips*, 415 F.3d at 1313-14. While extrinsic evidence may be useful in construing claims, the intrinsic evidence should be afforded the greatest weight in determining what a person of ordinary skill would have understood a claim to mean. The Federal Circuit urges caution in the use of extrinsic evidence. *Id.* at 1319-24.

Among the sources of intrinsic evidence, the claims and specifications themselves are most important. The particular context in which a term is used in the asserted claim and the use of the term in other claims can be "highly instructive". *Id.* at 1314. Granted, of course, the claims "do not stand alone" and "must be read in view of the specification of which they are a part". *Id.* at 1315 (quoting *Markman*, 52 F.3d at 978). Not surprisingly, it is, therefore, the specification that is "the single best guide to the meaning of a disputed term". *Id.* at 1303.

### **B. Disputed Terms**

#### **1. Claims 1-7, 9**

[1] With respect to claims 1-7 and 9, the parties have only one minor dispute involving the term "drive units", specifically the "first drive units" and the "second drive units". The parties agree that they refer to an "assemblage of components responsible for rotation" at a rate of one (omega) and two (omega), respectively. The dispute is whether the proper construction of the "drive units" includes (or does not include) the tubing and vessel which are rotated. Plaintiff Haemonetics contends that the tubing and vessel are part of their respective drive units while the defendants argue that the assemblage is exclusive of both.

Claim 1, upon which the other referenced claims are dependent, reads:

A centrifugal device for liquids containing suspended particles, such as blood, comprising:

a centrifugal unit with a center and a rotation axis; a peripheral separation chamber;

a plurality of channels connecting the center of the centrifugal unit to said separation chamber, each channel having a central extremity;

a plurality of tubes having first and second extremities, the central extremities of the respective channels attached to the first extremities of the tubes and the second extremities of the tubes being angularly stationary and coaxially located with respect to the rotating axis;

*first drive units* to turn the tubes around said rotating axis at an angular speed ( $\omega$ ); and

*second drive units* to turn the centrifugal unit around said rotating axis at an angular speed  $2(\omega)$  wherein the centrifugal unit has a radius between 25 and 50 mm and a height between 75 and 125% of the radius.

(emphasis added).

The defendants assert that the drive units were clearly intended to exclude the components that are rotated. In support, they cite to the language in Claim 1 (excerpted above) which delineates the six components comprising a centrifugal device. The vessel, tubing, first drive units and second drive units are all separate items on that list. Furthermore, defendant Fenwal contends that because the patent drawings themselves assign a different reference number to the vessel, tubing and drive units, the intent was to treat the drive units as separate from the vessel and tubing. Accordingly, the defendants contend that the natural interpretation is that the drive units are not inclusive of the vessel and tubing.

Haemonetics argues that the defendants are improperly attempting to read limitations into the claims from the specification. It contends that "drive units" is simply a reference to the drive mechanism and that there is no basis for limiting the particular construction based on its particular application to the tubing and centrifugal vessel.

Although the plaintiff is correct that a written description should not be taken as unduly limiting claims without evidence of an intent to do so, the Court finds that argument misapplied in this case. According to the Court's reading of the Claim and specifications, the construction of the subject term is not about reading limitations into the claim but rather about whether the tubing and vessel, two separate structures, should be included within the term "drive units". It seems clear from the plain language of the claim itself that the structures are distinct claim elements. They are enumerated separately from the drive units, themselves. Moreover, the specifications and the drawings accompanying the patent underscore the delineation between the vessel, the tubing and the two drive units by assigning separate reference numbers to each component.

Having concluded that the drive units are separate components from the tube and the vessel that they rotate, the question is whether a drive unit should be construed in such a way as to be inclusive of those separate structures. The Court concludes that there is nothing to indicate that the term should be so construed. As in the case of *Bradshaw v. Igloo Products Corp.*, 1996 WL 663310 (Fed.Cir. Nov.15, 1996), in which the Federal Circuit rejected an attempt to define "handle" in a manner which would be inclusive of both "lifting handle" and "pulling handle", the Court here rejects the plaintiff's attempt to define "drive unit" in such a broad manner. In *Bradshaw*, the Federal Circuit noted that the patent "consistently speaks of the lifting handles and the pulling handle as distinct elements" and that "the drawings so indicate". *Id.* at \*2. Likewise, in this case, both the language and the drawings in the patent clearly treat the drive units as separate from

the objects which they rotate.

Accordingly, "first drive units" will be construed as: "the assemblage of components responsible for rotating the tubes around the designating axis at an angular speed ( $\omega$ ). The assemblage does not include the tubes or vessel." And, "second drive units" will be construed as "the assemblage of components responsible for rotating the centrifugal vessel (or centrifugal unit) around the designated axis at an angular speed  $2(\omega)$ ."

## 2. Claims 16-19

The parties dispute the construction of two different phrases found in Claim 16: "centrifugal unit" and "channels extending radially in the base". Claim 16 reads:

*A centrifugal unit comprising a centrifugal component and a plurality of tubes, said unit to turn around an axis to separate the components of a liquid, blood in particular, with such plurality of tubes displaying a single tubular component wherein said unit includes:*

a base in the form of a disk; an external cylindrical wall extending from the base;

an internal cylindrical wall extending from the base and separated by the external wall so as to define a ring-shaped separation chamber among each other;

a tubular housing almost extending co-axially to said rotating axis from the base to receive an end of a tubular unit; and

*a plurality of channels extending radially in the base of the centrifugal unit, with each channel providing communication between a respective tube of the tubular unit and the separation chamber, with the centrifugal unit having a radius between 25 and 50 mm and a height between 75 and 125% of the radius.*

(emphasis added).

### a. "Centrifugal Unit"

[2] The phrase "centrifugal unit" appears in each of the 22 claims of the '983 patent. In nearly all of those claims, the parties agree that "centrifugal unit" should be construed as referring exclusively to the vessel in which the centrifugation takes place. The parties disagree, however, with respect to how the phrase should be construed in Claim 16 (and dependent Claims 17-19).

The general rule of thumb in claim construction is that:

same terms appearing in different portions of the claims should be given the same meaning unless its clear from the specification and prosecution history that the terms have different meanings.

Frank's Casing Crew & Rental Tools, Inc. v. Weatherford Int'l, Inc., 389 F.3d 1370, 1377 (Fed.Cir.2004). Here, rather atypically, both parties advocate for the exception to that general rule. Defendants Baxter and Fenwal contend that in Claims 16-19, the phrase "centrifugal unit" refers, not only to the vessel, but also to the accompanying tubing. With respect to the first of the three instances in which "centrifugal unit" is used in Claim 16, Plaintiff Haemonetics agrees with the defendants. In the later two occurrences, however,

Haemonetics asserts that "centrifugal unit" should be construed consistent with the usage of the phrase in all other claims.

Claim 16 begins with the phrase: "[a] centrifugal unit comprising a centrifugal component and a plurality of tubes ..." The plain language of that first line defines "centrifugal unit", as the combination of both the vessel *and* the tubing. Accordingly, the defendants assert that the phrase adopts a specific meaning throughout Claim 16 (and its dependent claims) that is different than the definition in the earlier claims. The plaintiff does not dispute that interpretation of the phrase as it is used in the first line of the claim and the Court agrees.

The more difficult question is whether the second and third usages of "centrifugal unit" in Claim 16 should be interpreted in a manner consistent with the first line or with the usage of the phrase in Claims 1-15. As an initial matter, Haemonetics provides little or no explanation for why the same phrase, "centrifugal unit", would be used to describe both the whole device (both the vessel and the tubes) as well as merely the vessel component. Haemonetics simply allows that "[u]nfortunately, in making this amendment, the applicant failed to note that it was now using the same phrase, *centrifugal unit*, to refer to two different concepts". In effect, Haemonetics asserts that within Claim 16, the term "centrifugal unit" is a synecdoche, i.e. a word that describes both the whole and a part of the whole. FN2

FN2. For example, "wheels" is a word that means "car" as well as indispensable components of the car.

While the Court is unconvinced by the tenuous explanation for why the same phrase would have two different meanings within the same Claim, Haemonetics's alternative argument is compelling. The second and third references to "centrifugal unit" in Claim 16 are juxtaposed to the phrase: "having a radius between 25 and 50 mm and a height between 75 and 125% of the radius." Neither party challenges the application of those dimensions to the "centrifugal unit" described in Claim 16. The question is the exact meaning of the term "centrifugal unit". Those precise dimensions (described identically) are found in all of the patent's independent claims. With the exception of Claim 16, the parties agree that the dimensions refer to the height and radius of the vessel. Accordingly, Haemonetics convincingly contends that such dimensions necessarily refer to the same object and, thus, "centrifugal unit" refers to the vessel alone.

The defendants assert that the same dimensions should apply in Claim 16 to the combined vessel and tubing. The Court is skeptical. In essence, the defendants would require that identical dimensions be interpreted differently in Claim 16 than in the other claims. Because the vessel and tubing together are, *a fortiori*, larger than the vessel alone, the defendants' proposed construction would yield an absurdity. The Court declines to adopt such an awkward construction.

While the defendants correctly contend that avoidance of a nonsensical result of a particular construct is not the Court's responsibility, in this case, the Court's conclusion is compelled not only by logic but also by the claim language. *See* *Chef America, Inc. v. Lamb-Weston, Inc.*, 358 F.3d 1371, 1375 (Fed.Cir.2004)(holding that a claim that the dough be heated "to" a particular temperature range meant that the dough itself, and not merely the air in the oven, had to be heated to that temperature despite the fact that it would result in an unusable product).

In this case, contrary to the facts in *Chef America, Inc.*, there are clear indicators in the text of the claim itself (i.e. the identical dimensions) which persuades the Court that "centrifugal unit" should be interpreted,

in the body of Claim 16 and the dependent claims, in the same manner as in the prior claims. The patent consistently refers to "centrifugal unit" with respect to those measurements and the drawings indicate that the measurement is intended to apply to the same structure throughout the patent.

Accordingly, with the exception of its use in the first line of Claim 16 in which "centrifugal unit" is defined as comprising various components, the phrase "centrifugal unit", as used in Claim 16 and its dependent claims, will be construed as referring exclusively to the vessel itself. This is consistent with the use of the same phrase in Claims 1-15.

#### **b. "Channels Extending Radially in the Base"**

[3] In describing the components of a centrifugal unit, Claim 16 uses the phrase "channels extending radially in the base". The parties agree that it refers to a particular part of the centrifugal vessel which contains 1) a bottom in the shape of a disk and 2) channels that extend radially out from the base's center. The parties disagree, however, with respect to whether "in the base" means that the channels are physically located in the base or simply *come into contact with* or *rest on* the base.

The defendants contend that the proper construction of "channels extending radially in the base" is that the channels must be physically located *within* the base structure. Considering the specific language of the claim, the defendants maintain that "extending radially in" requires a construction in which the channels are physically located in the base. That interpretation depends on what the meaning of the word "in" is. The Shorter Oxford Dictionary defines "in" as "within the limits or bounds, within". The defendants thus argue that "extending radially in the base" requires more than contact between the bottom of the vessel and the channels.

Haemonetics asserts that the phrase has a broader definition than the defendants' proposed construction. It submits that the proper construction is that the channels are in the base of the entire centrifugal unit not that they are specifically in the base of the disk at the bottom of the vessel. In support, Haemonetics directs the Court's attention to the drawings and specifications which allegedly demonstrate that the channels are formed between the bottom and top portions of the centrifugal vessel. The Court agrees.

Having reviewed the claims, specifications and drawings, the Court construes the patent as teaching that the channels are to rest on the base, and not necessarily exist within the base itself. The defendants' reference to extrinsic dictionary sources to interpret the meaning of the contested phrase does not overcome the plaintiff's argument based on the terms and diagrams of the patent itself.

Accordingly, the disputed phrase, "channels extending radially in the base" will be construed as "channels extending radially in or on the base".

### **3. Claim 3**

In its original filing, defendant Baxter identified the phrase "less than" in Claim 3 as disputed. The defendant claimed that the phrase was based on an improper translation of the PCT application from French into English: the phrase "d'au moins" was mistranslated as "less than" rather than "at least". Plaintiff Haemonetics agrees and the Court concurs.

**ORDER**

For the foregoing reasons, the Court hereby construes the disputed claims as follows:

1. *First Drive Units* (Claim 1) means the assemblage of components responsible for rotating the tubes at an angular rate of ( $\omega$ ) and does not include the tubes or vessel;
2. *Second Drive Units* (Claim 1) means the assemblage of components responsible for rotating the centrifugal vessel (or centrifugal unit) at an angular rate of  $2(\omega)$  and does not include the tubes or vessel;
3. *Centrifugal Unit* (in the body of Claim 16) means the vessel itself, consistent with its construction in Claims 1-15;
4. *Channels Extending Radially in the Base* (Claim 16) means channels extending radially in or on the base;
5. *Less Than* (Claim 3) means at least.

**So ordered.**

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