

No. 6,510,716 (the “’716 Patent”), also entitled “Structure of Driving Unit in Drum Type Washing Machine,” which relates to a magnetic rotor and sidewall; and United States Patent Nos. 7,380,424 (the “’424 Patent”) and 7,418,843 (the “’843 Patent”), each entitled “Drum Type Washing Machine,” which belong to the same patent family relating to the use of insert injection molding.²

Presently before the Court is the parties’ request for claim construction. The Court held a *Markman* hearing on December 6, 2010. This Opinion addresses the proper construction of the disputed claim terms.

I. Standards for Claim Construction

In order to prevail in a patent infringement suit, a plaintiff must establish that the patent claim “covers the alleged infringer’s product or process.” *Markman v. Westview Instrs., Inc.*, 517 U.S. 370, 116 S. Ct. 1384, 134 L. Ed. 2d 577 (1996). Consequently, the first step in an infringement analysis involves determining the meaning and the scope of the claims of the patents. *Johnson Worldwide Assocs., Inc. v. Zebco Corp.*, 175 F.3d 985, 988 (Fed. Cir. 1995). Claim construction is a matter of law, *Markman v. Westview Instrs., Inc.*, 52 F.3d 967, 979 (Fed. Cir. 1995), *aff’d* 517 U.S. 370 (1996); therefore, it is “[t]he duty of the trial judge . . . to determine the meaning of the claims at issue.” *Exxon Chem. Patents, Inc. v. Lubrizoil Corp.*, 64 F.3d 1553, 1555 (Fed. Cir. 1995).

In *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005), the Federal Circuit

² The written description of the ’424 Patent and the ’843 Patent are substantially identical so that the Court cites only the ’843 Patent specification for both patents in order to simplify its Opinion.

emphasized that “[i]t is a bedrock principle of patent law that the claims of a patent define the invention to which the patentee is entitled the right to exclude.” 415 F.3d at 1312 (internal quotations omitted) (citing *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996) (“[W]e look to the words of the claims themselves . . . to define the scope of the patented invention”); *Markman*, 52 F.3d at 980 (“The written description part of the specification itself does not delimit the right to exclude. That is the function and purpose of claims.”). Generally, the words of a claim are given their “ordinary and customary meaning,” which is defined as “the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention.” *Phillips*, 415 F.3d at 1312-13 (citations omitted).

In this regard, the Federal Circuit has noted:

It is the person of ordinary skill in the field of the invention through whose eyes the claims are construed. Such person is deemed to read the words used in the patent documents with an understanding of their meaning in the field, and to have knowledge of any special meaning and usage in the field. The inventor’s words that are used to describe the invention--the inventor’s lexicography--must be understood and interpreted by the court as they would be understood and interpreted by a person in that field of technology. Thus the court starts the decisionmaking process by reviewing the same resources as would that person, viz., the patent specification and the prosecution history.

Id. (quoting *Multiform Desiccants, Inc. v. Medzam, Ltd.*, 133 F.3d 1473, 1477 (Fed. Cir.1998)).

In the process of determining the meaning of a claim as understood by a person skilled in the art, a court may look to various sources from which the proper meaning may be discerned. These sources include “the words of the claims themselves, the remainder of the specification, the prosecution history, and extrinsic evidence concerning relevant scientific

principles, the meaning of technical terms, and the state of the art.” *Id.* at 1314. While a court is permitted to turn to extrinsic evidence, such evidence is generally of less significance and less value in the claim construction process. *Id.* at 1317. Extrinsic evidence would include evidence that is outside the patent and prosecution history, and may include expert testimony, dictionaries and treatises. *Id.* The Federal Circuit has noted that caution must be exercised in the use of extrinsic evidence, as this type of evidence may suffer from inherent flaws affecting its reliability in the claim construction analysis. *Id.* at 1319 (“We have viewed extrinsic evidence in general as less reliable than the patent and its prosecution history in determining how to read claim terms.”). While “extrinsic evidence may be useful to the court, . . . it is unlikely to result in a reliable interpretation of patent claim scope unless considered in the context of the intrinsic evidence.”

II. The Disputed Claim Terms

The parties have identified a number of disputed claim terms in the patent. The Court will address each of these in turn.

A. “bearing housing” in the ’382 Patent, ’716 Patent, and ’843 Patent

For each disputed instance of “bearing housing,” LG proposes that the term should not be construed or, alternatively, that it be given its plain and ordinary meaning, which LG contends is a “part for supporting a bearing.” Such a construction, however, is overly broad. The three patent families at issue disclose three distinctly different “bearing housings,” and LG distinguished between the three to obtain allowance of the patents-in-suit. As such, it is similarly necessary to distinguish the three “bearing housings” in claim construction. *See AK*

Steel Corp. v. Sollac, 344 F.3d 1234, 1243 (Fed. Cir. 2003) (construing similar claim terms supported by the same specification across related patents differently, as made necessary due to clear statements in the specification and prosecution history). Therefore, in addition to the reasons that follow, the Court rejects LG’s proposed construction with respect to each disputed instance of “bearing housing” throughout the three patent families in suit.

1. “bearing housing” in the ’382 Patent

This disputed term appears in Claims 1-4, 14, 20, 23, and 24 of the ’382 Patent. LG contends that the term should not be construed or, alternatively, that it be given its plain and ordinary meaning, which LG contends is a “part for supporting a bearing.” Defendants argue that the Court should construe the term as such: “a cylindrical part injection molded in a central portion of the tub rear wall for supporting the bearings and the rotating shaft.”

The Court adopts Defendants’ position. There is support in the language of Claim 1 for Defendants’ proposed construction, including the description of a “cylindrical aperture . . . , wherein the bearing housing is mounted proximate to a central portion of the rear wall of the tub by insert injection molding.” ’382 Patent, col.12:61-64. Indeed, LG actually cites this language to support its definition. *See* Joint Proposed Construction of Claim Terms for the ’382 and ’363 Patents (November 29, 2010 Revision), at 2. In addition, such structural limitations are also described in the specification, which includes language describing the “bearing housing” as “supporting the bearings mounted on . . . the shaft” and as “built in a central portion of a rear wall of the tub.” ’382 Patent, col. 2:19-28, 31-33.

Finally, LG’s proposed construction in this instance would include any part that

supports a bearing, which is beyond that which is disclosed in the specification and prosecution history. LG's construction, for example, would include a part that has a "stator fastening part" that extends radially, like the "bearing housing" in the '843 Patent. Thus, if LG's construction is adopted, the "bearing housing" in the '382 Patent would also include the "bearing housing" in the '843 Patent. In response to claim rejections in its prosecution of the '843 Patent, however, LG explained that the '843 Patent disclosed, among other things, a stator fastening part as part of the bearing housing that the previously approved '382 Patent did not. *See* '843 Patent prosecution history, Feb. 14, 2008, Response at 28 (Docket Entry no. 169-3, Exh. H6, p.5). Therefore, LG's argument for approval of its '843 Patent relied, in part, on LG's disclaiming such a disclosure under the '382 Patent. It is clear, then, that LG's proposed construction would include "bearing housings" in other patents in suit, and as such it is overly broad.

2. "bearing housing" in the '716 Patent

This disputed term appears in Claims 1 and 24 of the '716 Patent. LG contends that the term should not be construed or, alternatively, that it be given its plain and ordinary meaning, which LG contends is a "part for supporting a bearing." Defendants argue that the Court should construe the term as such: "a part located entirely outside the tub wall consisting of 1.) a cylindrical central portion for supporting the bearings and the rotating shaft; and 2.) A portion extending radially from the cylindrical center portion, to which the stator is attached."

The Court adopts Defendants' proposed construction, but without including the word "entirely." This construction is consistent with the language in the claims, which state that the

“bearing housing” has a “central portion” and “stator fastening bosses disposed at fixed intervals along a circumference of the central portion.” ’716 Patent, Claim 1, col. 12:46-48; claim 24, col. 16:1-3. The description of a “bearing housing” from the specification also provides support for the Court’s construction. It describes “a hub 700 formed as one unit with the bearing housing . . . and fastening bosses formed on an outer side of the hub 700 at fixed intervals along a circumference for fastening the stator.” ’716 Patent, col. 4:32-38. Furthermore, every embodiment disclosed in the ’716 Patent that includes a bearing housing has it located outside the tub rear wall. *See* ’716 Patent, figs. 2B, 10, 12; *see also* ’716 Patent, claims 39-41, cols. 20:10-12, 21:14-15, 22:14-15 (describing a connector “wherein the bearing housing extends up to an outer circumference of the tub”). The Court strikes the word “entirely” because it is unnecessary.

LG argues that the embodiment disclosed in Figure 13 of the ’716 Patent serves as proof that a “bearing housing” is not always located outside the tub wall. Figure 13 discloses an embodiment wherein the tub wall itself supports the bearings. ’716 Patent, cols. 9:35-47, 10:40-57. If anything that supported the bearings was considered a “bearing housing,” then certainly a “bearing housing” that actually includes the tub wall would not be located outside the tub wall. As Defendants point out, however, nowhere in the specification regarding Figure 13 is there a reference to a “bearing housing” or any indication that the patent contemplated the tub wall as such. Therefore, LG’s construction must be rejected.

3. “bearing housing” in the ’843 Patent

This disputed term appears in Claims 19-20, 22, 43, 45, 47, 56, and 85-86 of the ’843

Patent. LG contends that the term should not be construed or, alternatively, that it be given its plain and ordinary meaning, which LG contends is a “part for supporting a bearing.”

Defendants argue that the Court should construe the term as such: “a part injection molded in a central portion of the tub rear wall consisting of 1.) a cylindrical central portion for supporting the bearings and the rotating shaft (called the ‘bearing supporting part’); and 2.) a portion extending radially from the cylindrical center portion (called the ‘stator fastening part’), to which the stator is attached.”

The Court adopts Defendants’ proposed construction. Defendants use language directly from the claims to assemble their construction. *See* ’424 Patent, Claim 3, col. 14:6-7 (“the bearing housing is injection molded into the tub”); ’424 Patent, Claim 1, col. 13:61-62 (“a bearing housing comprising a bearing support and a stator fastening part”); ’424 Patent, Claim 7, col. 14:20-21 (“the bearing support has a hollow cylindrical shape”); ’424 Patent, Claim 10, col. 14:29-30 (“the stator fastening part extends outward from the bearing support”); ’843 Patent, Claim 56, col. 20:43-45 (“a bearing housing having a bearing supporting part and a stator fastening part extended in a radial direction from the bearing supporting part”); ’843 Patent, Claim 86, col. 22:43-44 (“the bearing housing is inserted and integrated with the rear wall of the tub by injection molding”). Language from the specification also supports Defendants’ construction:

The bearing housing 7 is . . . integrated with the tub rear wall by inserting the bearing housing 7 in a mold in an injection molding of the tub 2 of plastic. . . . [T]he bearing housing 7 includes a bearing supporting part 7a of sleeve form for supporting the bearings, a stator fastening part 7b formed as a unit with the bearing supporting part 7a extended form a rear end of the bearing supporting part 7a in a radial direction . . . wherein both the bearing supporting part 7a and

the stator fastening part 7b are inserted in the tub 2 rear wall

See '843 Patent, col. 6:53-65. Indeed, the components of Defendants' proposed construction of "bearing housing" were the same components disclosed in the '843 Patent that allowed LG to overcome an examiner rejection based on the '382 Patent. *See, e.g.*, '843 Patent prosecution history, Feb. 14, 2008, Response at 28 (Docket Entry no. 169-3, Exh. H6-5) ("[T]he bearing supporting part and the stator fastening part are disposed between an inner and outer surface of the tub rear wall/tub *Kim* ['382] does not disclose or suggest the above-noted feature[]"). Accordingly, the Court adopts Defendants' proposed construction.

B. "fastening ribs formed as one unit with the frame"

This disputed term appears in Claims 1, 45, and 47-48 of the '716 Patent. LG argues that the term need not be construed or, alternatively, should be given its ordinary and customary meaning, which it contends is "fastening parts integrated together with the frame." Defendants counter that the phrase should be construed as "fastening ribs formed out of the frame of insulating material that covers the stator's magnetic core." The difference in these constructions is that LG's proposed construction would cover fastening ribs made from the stator's magnetic core, while Defendants' proposed construction would cover fastening ribs made from the same insulating frame material.

The Court adopts Defendants' proposed construction. The language from the claims supports this construction. Claim 1 of the '716 Patent claims "a stator having . . . a frame of insulating material . . . and a plurality of fastening ribs projected inward in the radial direction,

the fastening ribs formed as one unit with the frame.” ’716 Patent, col. 12:50-59. By describing the frame as made of insulating material and then stating that the fastening ribs are “formed as one unit with the frame,” the language suggests that the fastening ribs should be made of the same insulating material as the frame. Indeed, besides stating that the fastening ribs are “formed as one unit with the frame,” the patent defines no particular material from which the fastening ribs are formed, such that the insulating material of which the frame is made appears as the only viable option.

In addition, prior art referenced by the ’716 Patent already uses fastening ribs made from the magnetic core to the exclusion of LG’s proposed construction. In its reexamination of the ’716 Patent, the United States Patent & Trademark Office (“PTO”) noted that *Nishimura*, United States Patent No. 5,737,944, was the closest prior art. Notice to Issue Ex Parte Reexamination Certificate, Sept. 22, 2009, p. 2 (Docket Entry no. 169-3, Exh. I). The PTO confirmed the claims in the ’716 Patent because *Nishimura* “shows the fastening ribs on the core itself . . . , not formed as one unit on the frame.” *Id.* It follows, then, that having fastening ribs on the core itself, as included in LG’s proposed construction, contradicts the very reason the PTO confirmed the ’716 Patent in its reexamination. If LG’s proposed construction encompasses prior art, then it is overly broad. Therefore, the Court must reject LG’s proposed construction in favor of Defendants’ proposed construction.

C. “fastening parts formed with the insulator”

This disputed term appears in Claims 45 and 62 of the ’843 Patent. LG argues that the term need not be construed or, alternatively, should be given its ordinary and customary

meaning, which it contends is “fastening parts made together with the insulator.” Defendants counter that the phrase should be construed as part of the insulator frame of the stator, used to fasten the stator to the bearing housing. At issue is whether the claim language restricts the fastening parts to be made of the same material as the insulator rather than of the same material as the core. Because the Court decides that the claim language indeed restricts the fastening parts to be made of the same material as the insulator, it adopts the following construction of the term: “fastening parts made as a unit with the insulator.”

The patent specification provides evidence that the fastening parts should be made of the same material as the insulator rather than the core. The '843 Patent explains in the background that the invention obviates problems due to limitations and disadvantages of the related art. '843 Patent, col. 2:62-65. One problem arose because the fastening parts, whether of a sectional core or helical core, were made of the same material of the core. For a sectional core, this resulted in a complicated fabrication process and loss of much material. '843 Patent, col. 2:10-12. For a helical core, this was a problem because the fastening parts could not be formed on the inside of the core. '843 Patent, col. 2:13-19. Therefore, the background continues, a stator is needed in which the function of the fastening parts of related art “is made to be carried out, not by the core itself, but by other part.” '843 Patent, col. 2:25-27. Because the invention covered by the '843 Patent is directed to obviate the problem described above, it follows that the stator covered by the patent includes fastening parts made by a part other than the core itself.

In describing the preferred embodiments, the specification also provides evidence that

the fastening parts are to be made of the same material as the insulator. Referring to a drawing of a preferred embodiment, the specification states that the “fastening parts [are] molded as a unit with the insulator.” ’843 Patent, col. 8:42-43. Referring to another drawing of a preferred embodiment, the specification states that the “fastening parts [are] formed as a unit with the insulator.” ’843 Patent, col. 8:60-61. Thus, the language describing the preferred embodiments further supports the Court’s construction.

LG counters that a construction that requires the fastening parts to be made of the same material of the insulator excludes a disclosed embodiment in the ’843 Patent. The embodiments to which LG refers are disclosed by Figures 2 and 3 of the ’843 Patent. These embodiments, which clearly provide for fastening parts made of the core material, are labeled “related art,” however, indicating that they are not embodiments of the present invention. *See J & M Corp. v. Harley-Davidson*, 269 F.3d 1360, 1368 (Fed. Cir. 2001) (explaining that a patentee may not extend the scope of its claims to include embodiments described as “related art”). Furthermore, this related art is exactly the related art that the ’843 patent attempts to improve upon with fastening parts made of a material other than core material. *See* ’843 Patent, col. 1:38-2:27 (describing the related art and how the invention may improve it). Therefore, the Court rejects LG’s proposed construction.

D. Terms relating to the placement of the bearing housing within the rear wall

The disputed term “disposed between the inner surface and the outer surface of the tub” appears in Claims 19 and 43 of the ’843 Patent. The disputed term “located between an inner surface and an outer surface of a rear wall of the tub” appears in Claims 1 and 34 of the

'424 Patent. The disputed term “buried in the tub rear wall” appears in Claim 56 of the '843 Patent. In each claim, these terms refer to the placement of the bearing housing in relation to the tub rear wall. LG argues that the terms should be construed as “inserted between the interior surface of the rear wall inside the tub and the exterior surface of the rear wall outside the tub.” Defendants counter that the phrases should be construed as “entirely enclosed by the rear wall of the tub except for holes for fastening the stator, positioning hole(s), and an opening for the bearing supporting part.” It is clear from the patents that the location of the bearing housing is between the inner and outer surface of the tub. The issue is to what extent the bearing housing may protrude beyond the tub wall and to what extent the tub encapsulates the bearing housing. For the following reasons, the Court adopts Defendants’ construction, but without the word “entirely.”

The patent prosecution history for the '843 Patent provides relevant guidance. LG submitted an application that stated that the bearing housing was “inserted in a tub rear wall.” The PTO rebuffed this application, characterizing a “space tube” in prior art, part of which was located between the inner and outer surface of the tub and another part of which protruded beyond the tub wall, as “inserted in a tub rear wall.” '843 Patent prosecution history, Aug. 30, 2006, Office Action at 3 (Docket Entry no. 169-3, Exh. H3, p.3). To overcome this objection, LG amended its claim to read that the bearing housing was “disposed between the inner surface and the outer surface of the tub,” and disclaiming any bearing housing that was “inserted,” or that protruded beyond the tub wall. *See* '843 Patent prosecution history, Apr. 30, 2007, Response at 3-4, 22-23 (Docket Entry no. 169-3, Exh. H4)

(adding “disposed between” language and claiming that an “external angle” of the bearing molding was not “disposed between” the tub wall). Thus, the Court must reject LG’s proposed construction that the bearing housing is “inserted” in the tub wall because this language was specifically rejected by the PTO. Similarly, because the PTO interpreted the rejected the “inserted” language as allowing for protrusions beyond the tub wall, the Court must construe the term at issue so as to restrict the bearing housing from protruding beyond the tub wall.

Because the bearing housing may not protrude beyond the tub wall, the Court must then consider to what extent the tub wall encapsulates the bearing housing. Defendants argue that the tub wall “entirely encloses” the bearing housing, “except for holes for fastening the stator, positioning hole(s), and an opening for the bearing supporting part.” These exceptions obviate the use of the term “entirely.” Furthermore, Defendants admit that these exceptions, while not allowing the bearing housing to protrude beyond the tub wall, allow portions of the bearing housing to be “exposed” or even flush with the tub wall, *Markman* hrg. tr. 62-63, which negates its position that the bearing housing is “entirely enclosed” by the tub wall.

Nevertheless, the intrinsic evidence provides support for a construction that the bearing housing is “enclosed by the rear wall of the tub except for holes for fastening the stator, positioning hole(s), and an opening for the bearing supporting part,” meaning that the bearing housing may not protrude beyond the tub wall. In describing the invention, the patents list the following exposed elements of the bearing housing: the “positioning hole 710b in the stator fastening part 7b is formed, no covered with plastic, but exposed,” ’843 Patent,

col. 10:43-44; “only the stator fastening holes 700b are exposed,” ’843 Patent, col. 6:64-65; “only the at least [sic] one stator fastening hole is exposed from the tub,” ’843 Patent, col. 21:3-4; “stator fastening holes in the stator fastening part are exposed,” ’843 Patent, cols. 3:37-38, 61-62, 4:67-5:1. Therefore, with the exception of the word “entirely,” Defendants’ proposed construction adheres to the limitations presented by the ’834 and ’424 Patents.

III. Conclusion

For the reasons set forth above, the terms at issue will be construed as indicated. An appropriate Order shall accompany this Opinion.

/s/ JOEL A. PISANO
United States District Judge

Dated: January 25, 2011