United States District Court
Northern District of California

UNITED STATES DISTRICT COURT

NORTHERN DISTRICT OF CALIFORNIA

SAN JOSE DIVISION

NORTEK AIR SOLUTIONS, LLC,

Plaintiff,

v.

DMG CORPORATION, et al.,

Defendants.

Case No. 14-cv-02919-BLF

ORDER CONSTRUING CLAIMS IN U.S. PATENT NOS. 7,922,442; 8,414,251; 8,398,365; 8,562,283; 8,694,175; 8,727,700; 8,734,086

[Re: ECF 97]

Plaintiff Nortek Air Solutions, LLC ("Plaintiff") brings this patent infringement lawsuit against Defendants Energy Labs Inc., DMG Corporation, and DMG North, Inc. (collectively, "Defendants") alleging infringement of seven of Plaintiff's patents directed at air handling systems that meet the heating, ventilation, and air conditioning ("HVAC") requirements of commercial, industrial, and institutional buildings: U.S. Patent Nos. 7,922,442 (the "'442 patent"); 8,414,251 (the "'251 patent"); 8,398,365 (the "'365 patent"); 8,562,283 (the "'283 patent"); 8,694,175 (the "'175 patent"); 8,727,700 (the "'700 patent"); and 8,734,086 (the "'086 patent") (collectively, "Asserted Patents"). The Court held a tutorial on September 11, 2015 and a *Markman*[1] hearing on September 18, 2015 for the purpose of construing ten disputed terms in the Asserted Patents.

I. BACKGROUND

A. Background and Description of the Invention

All of the Asserted Patents are directed towards air handling systems in commercial, industrial, and institutional buildings, Pl.'s Br. 3, ECF 86, and were invented by Lawrence G.

[1] *Markman v. Westview Instruments, Inc.*, 517 U.S. 370 (1996).

Hopkins, s*ee id.* at 4.

The ’442 patent, ’283 patent, ’175 patent, and ’700 patent, all titled “Fan Array Fan Section In Air-Handling Systems,” are related and share similar specifications. The ’442 patent issued on April 12, 2011, the ’283 patent issued on October 22, 2013, the ’175 patent issued on April 8, 2014, and the ’700 patent issued on May 20, 2014. The ’365 patent is titled “Modular Fan Units With Sound Attenuation Layers For An Air Handling System.” The ’365 patent issued on March 19, 2013. The ’251 and ’086 patents are both titled “Modular Fan Housing With Multiple Modular Units Having Sound Attenuation For A Fan Array For An Air-Handling System.” The ’251 patent issued on April 9, 2013 and the ’086 patent issued on May 2, 2014.

According to Plaintiff, prior art air handling systems typically used a single large fan to regulate and circulate air while Plaintiff’s Asserted Patents use multiple, smaller fans in an array. *Id.* 3-4. As explained in the Asserted Patents, the use of multiple fans adjacent to each other was against conventional wisdom because of concerns that the separate airflows created by the individual fans would interfere with one another. *See, e.g.*, ’442 patent at col. 2:50-3:10 (“There was no recognition of the advantages [created] by increasing the number of fan units.”). According to the Asserted Patents, the fans in the array invented by Mr. Hopkins did not interfere with each other, *see* ’442 patent at col. 3:40-55 (operating the fans at peak efficiency), and the use of smaller fans over large fans had several benefits over the prior art single-fan systems including improved performance, reliability, flexibility, and ease of maintenance. *See, e.g.,* ’442 patent at col. 7:55-8:49, 9:33-40, 9:53-51.

B. Agreed Construction

In the Revised Joint Claim Construction Statement, the parties agreed that the term “air[-]handling system” should be construed as “a structure that includes components designed to work together in order to condition air as part of the primary system for ventilation of buildings or rooms.” *See* ECF 97 (“Revised Joint Claim Construction Statement” or “RJCCS”) at 2. The Court hereby ADOPTS this construction of “air[-]handling system.”

C. Claim Terms at Issue

In the parties’ Revised Joint Claim Construction Statement, the parties identified ten claim

terms to be construed:

1. "control system";
2. "array controller";
3. "speed controller";
4. "sound attenuation layers";
5. "fan array of fan units";
6. "nameplate rated speed";
7. "modular units";
8. "synchronous speed";
9. "motors and fans positioned in the chambers"; and
10. "ventilation system."

See id. In the parties' original Joint Claim Construction Statement, Defendants identified 31 additional terms that they argued should also be construed by the Court. *See* ECF 83 at 3. Rule 4-3(c) of the Patent Local Rules states that the parties shall identify "up to a maximum of 10" claim terms for construction. Patent L.R. 4-3(c). Accordingly, the Court DENIES Defendants' request to construe an additional 31 terms.

D. Procedural Background

On June 24, 2015, Plaintiff filed the complaint in this action. ECF 1. Defendants answered the complaint and also asserted counterclaims against Plaintiff on August 21, 2014. ECF 18, 19. On September 9, 2014, Plaintiff answered the counterclaims. ECF 23, 24. On May 29, 2015, the parties filed their joint claim construction statement. ECF 83. Plaintiff filed its opening brief on claim construction ("Mot.") on July 16, 2015. ECF 86. Defendants filed their responsive claim construction brief ("Opp.") on August 3, 2015. ECF 89. On August 13, 2015, Plaintiff filed its reply brief ("Reply"). ECF 91. The Court held a tutorial on September 11, 2015. ECF 95. The parties submitted a revised joint claim construction statement on September 16, 2015. ECF 97. On September 17, 2015, the Court held a case management conference to discuss the revised joint construction statement. ECF 100. At the case management conference, both parties indicated that they did not need additional time nor briefing to address the revised joint

claim construction statement and that they were ready to proceed with the claim construction hearing as scheduled. The Court held the claim construction hearing on September 18, 2015.

II. LEGAL STANDARD

Claim construction is a matter of law. *Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 387 (1996). "It 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," *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (en banc) (internal citation omitted), and, as such, "[t]he appropriate starting point . . . is always with the language of the asserted claim itself," *Comark Commc'ns, Inc. v. Harris Corp.*, 156 F.3d 1182, 1186 (Fed. Cir. 1998).

Claim terms "are generally given their ordinary and customary meaning," defined as "the meaning . . . the term would have to a person of ordinary skill in the art in question . . . as of the effective filing date of the patent application." *Phillips*, 415 F.3d at 1313 (internal citation omitted). The court reads claims in light of the specification, which is "the single best guide to the meaning of a disputed term." *Id.* at 1315; *see also Lighting Ballast Control LLC v. Philips Elecs. N. Am. Corp.*, 744 F.3d 1272, 1284-85 (Fed. Cir. 2014) (en banc). Furthermore, "the interpretation to be given a term can only be determined and confirmed with a full understanding of what the inventors actually invented and intended to envelop with the claim." *Phillips*, 415 F.3d at 1316 (quoting *Renishaw PLC v. Marposs Societa' per Azioni*, 158 F.3d 1243, 1250 (Fed. Cir. 1998)). The words of the claims must therefore be understood as the inventor used them, as such understanding is revealed by the patent and prosecution history. *Id.* The claim language, written description, and patent prosecution history thus form the intrinsic record that is most significant when determining the proper meaning of a disputed claim limitation. *Id.* at 1315-17; *see also Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996).

Evidence external to the patent is less significant than the intrinsic record, but the court may also consider such extrinsic evidence as expert and inventor testimony, dictionaries, and learned treatises "if the court deems it helpful in determining 'the true meaning of language used in the patent claims.'" *Philips*, 415 F.3d at 1318 (quoting *Markman*, 52 F.3d at 980). However, extrinsic evidence may not be used to contradict or change the meaning of claims "in derogation

of the 'indisputable public records consisting of the claims, the specification and the prosecution history,' thereby undermining the public notice function of patents." *Id.* at 1319 (quoting *Southwall Techs., Inc. v. Cardinal IG Co.*, 54 F.3d 1570, 1578 (Fed. Cir. 1995)).

III. CONSTRUCTION OF DISPUTED TERMS[2]

A. "control system"

Plaintiff's Proposal	Defendants' Proposal	Court's Construction
components that operate the air handling system	Indefinite[3] "A functionally related group of elements is capable of being programmed to meet system goals by at least controlling the fan units and being capable of at least one of the following: i) taking fan units on-line, ii) taking fan units off-line, and/or iii) changing a speed of fan units that are on-line."	a set of components that operate the air handling system

This disputed term appears in dependent claims 18 and 32 of the '442 patent, as well as independent claims 1 and 13 and dependent claims 8, 9, and 12 of the '175 patent. Claim 1 of the '175 patent is representative of how the term is used in the claim language:

> 1. A **control system** for an air-handling system having (a) an air-handling compartment; (b) a fan array including at least three fan units positioned within the air-handling compartment; (c) the air-handling compartment associated with a building such that the air handling system conditions the air of at least a portion of the building, the **control system** comprising:
> a user input configured to permit a user to program a selected performance level for one or more of i) air volume, ii) air pressure, or iii) a pattern of air flow;
> an output coupled to the fan array of at least three fan units;
> and an array controller configured to operate the fan units substantially at or above the selected performance level at least by controlling a speed of ones of

[2] Following the technology tutorial, the parties submitted revised proposed constructions in a Revised Joint Claim Construction Statement. *See* ECF 97. This order addresses the proposed constructions appearing in the Revised Joint Claim Construction Statement.

[3] As discussed at the *Markman* Hearing, the Court declines to rule at this time on Defendants' indefiniteness arguments. *See Markman* Trans. at 103-105, ECF 111. The Court defers a decision on Defendants' indefiniteness arguments until summary judgment.

the fan units that are ON.

'175 Patent at 15:56-16:4 (emphasis added).

Plaintiff argues that "control system" should be construed as "components that operate the air handling system." *See* Exh. A to RJCCS at 1, ECF 97-1. Defendants argue that "control system" should be construed as a "[a] functionally related group of elements is capable of being programmed to meet system goals by at least controlling the fan units and being capable of at least one of the following: i) taking fan units on-line, ii) taking fan units off-line, and/or iii) changing a speed of fan units that are on-line." *See id.* Thus, the parties' central disputes are over whether a control system must: (1) be "capable of at least one of the following: i) taking fan units on-line, ii) taking fan units off-line, and/or iii) changing a speed of fan units that are on-line" and (2) consist of "components" or "[a] functionally related group of elements." For the reasons set forth below, the Court construes "control system" as "a set of components that operate the air handling system."

With respect to whether a control system requires taking fan units online, offline, and/or changing the speed of fan units, Plaintiff argues the specification and claims do not place these limitations on a control system. *See Markman* Trans. at 15:18-17:3, ECF 111. According to Plaintiff, the specification shows various control systems, made up of different components, which operate an air handling system, *see, e.g.* Fig. 31, '175 patent, but nothing in the specification limits control systems to those that are capable of at least taking fan units online, offline, and/or changing the speed of fan units. *See* Karvelis Decl. at ¶ 18, ECF 88. Plaintiff also argues that the claims support its construction and that Defendants' construction improperly imports limitations that are specified only in the dependent claims. *Id.* at 24. Defendants argue that the specification and claim language require a control system to be capable of turning fan units on, off, and/or changing the speed of fan units. *See Markman* Trans. at 76:5-8, ECF 111 (arguing that Defendants' proposed language of "at least being capable of one of the following" was taken from the specification and "is found in some of the claims.").

The Court finds that the claim language and specification are most consistent with Plaintiff's interpretation that a control system is not required to be capable of taking fan units on-

line, off-line, and/or changing the speed of fan units. Under the doctrine of claim differentiation, "the presence of a dependent claim that adds a particular limitation gives rise to a presumption that the limitation in question is not present in the independent claim." *Phillips v. AWH Corp.*, 415 F.3d 1303, 1315 (Fed. Cir. 2005). While dependent claim 6 of the '442 patent, consistent with Defendants' proposed construction, claims a fan array where the control system turns fans on, off, and/or changes the speed of fan units, *see* '442 patent at 14:51-55, none of the independent claims recite such a limitation, *see, e.g.* Claim 1 of the '441 patent at 14:18-31. The absence of this limitation in the independent claims "gives rise to the presumption" that the control system claimed in the independent claims is not required to be capable of turning fan units on, off, and/or changing the speed of fan units. *See Phillips*, 415 F.3d at 1315. Under Defendants' proposed construction, the dependent claim limitations requiring the control system to turn fan units on, off, and/or change the speed of fan units are superfluous and there would be no meaningful difference between the scope of independent claim 1 and dependent claim 6 of the '442 patent. *See e.g.*, *eBay Inc. v. Kelora Sys., LLC*, No. 10-4947-CW, 2012 WL 1835722, at *6 (N.D. Cal. May 21, 2012). Defendants' argument at the *Markman* hearing also acknowledged that the limitation of turning fan units on, off, and/or changing the speed of fan units "is found [only] in *some* of the claims." *Markman* Trans. at 76:7- 8, ECF 111 (emphasis added). Yet, Defendants fail to explain why a limitation found in some of the dependent claims but not in the independent claims should be imported into the construction of the term. The Court finds that the specification and claims do not support including these separate dependent claim limitations into the construction of a "control system."

With respect to whether a "control system" consists of "components" or "[a] functionally related group of elements," the Court finds that the claim language and specification support construing a "control system" as consisting of "a set of components." The claim language and specification support the notion that a "control system" is an object. *See, e.g.* Fig. 31 of the '175 patent. Plaintiff's proposed construction of "components" fails to capture the fact that the components together make up one object. Defendants' proposed construction of "[a] functionally related group of elements" attempts to construe a "control system" as an object. However,

Defendants' proposed construction introduces ambiguity into the claims as it lacks a clear notion of what it means for a group of elements to be "functionally related." That said, the Court appreciates Defendants' efforts to clarify to the jury that a "control system" is an object. The Court notes that at the *Markman* hearing, Plaintiff repeatedly referred to a "control system" as a "set of" components. *See Markman* Trans. at 8:1-2, 9:19-20, 11:15, 12:16, 13:6, ECF 111. The Court finds that "a set of components" accurately describes a "control system" as an object without introducing additional ambiguity into the term "control system." At the *Markman* hearing, Plaintiff agreed to modify its proposed construction of "control system" by adding "a set of" to the beginning of its proposed construction. *See Markman* Trans. 17:4-9, ECF 111. Accordingly, the Court construes a "control system" as "a set of components that operate the air handling system."

B. "array controller"

Plaintiff's Proposal	Defendants' Proposal	Court's Construction
a set of components that manage the fan units in the fan array[4]	"A means for controlling individual fans, such as a variable frequency drive, capable of at least one of the following: turn individual fan units ON and OFF or control the speed of individual fan units within an array of fan units."	a set of components that manage the fan units in the fan array

This disputed term appears in dependent claims 18, 19, 20, 50 and 58 of the '251 patent, dependent claims 7, 13, 14, and 15 of the '365 patent, independent claims 1 and 13 and dependent claims 8, 9, 12, and 21 of the '175 patent, independent claim 1 and dependent claims 10, 11, 18, and 23 of the '700 patent, and dependent claims 6, 9, and 48 of the '086 patent. Claim 1 of the '175 patent is representative of how the term is used in the claim language:

1. A control system for an air-handling system having (a) an air-handling

[4] After the Court proposed modifying the construction of "control system" to include "a set of," Plaintiff agreed to modify its proposed construction of "array controller" to include "a set of." *Markman* Trans. at 17:24-25, ECF 111.

compartment; (b) a fan array including at least three fan units positioned within the air-handling compartment; (c) the air-handling compartment associated with a building such that the air handling system conditions the air of at least a portion of the building, the control system comprising:

a user input configured to permit a user to program a selected performance level for one or more of i) air volume, ii) air pressure, or iii) a pattern of air flow;

an output coupled to the fan array of at least three fan units;

and an **array controller** configured to operate the fan units substantially at or above the selected performance level at least by controlling a speed of ones of the fan units that are ON.

'175 Patent at 15:56-16:4 (emphasis added).

Plaintiff contends that an "array controller" consists of "components that manage the fan units in the fan array." *See* Exh. A to RJCCS at 12, ECF 97-1. Defendants argue that an "array controller" should be construed as "[a] means for controlling individual fans, such as a variable frequency drive, capable of at least one of the following: turn individual fan units ON and OFF or control the speed of individual fan units within an array of fan units." *Id*. at 12-13. The parties' dispute as to the proper construction of "array controller" turns on two issues. First, the parties dispute whether an array controller can only control individual fans as opposed to groups of fans. Second, the parties dispute whether an array controller must be capable of turning an individual fan on and off or controlling the speed of an individual fan. The Court addresses each of these issues in turn and for the reasons set forth below, the Court construes an "array controller" as "a set of components that manage the fan units in the fan array."

The Court first turns to the parties' dispute over whether an array controller may only control individual fans. According to Plaintiff, the claim language and specification support its construction that an array controller may control groups of fans in addition to individual fans. Plaintiff notes that the independent claims of the patents specifically contemplate that an array controller will control groups of fans. *See, e.g.*, Claim 1 of the '700 Patent at col. 14:60-15:10 ("…an array controller…operating all of the fan units at a first fan speed and…operating a subset of the fan units at a second fan speed."). Plaintiff also argues that Defendants' proposed construction would exclude embodiments contained in the patent specification. *See, e.g.* '442 patent at col. 2-4 ("…array controller is able to control fan units individually, in predetermined

groupings, and/or as a group as a whole."); '442 patent at col 7:43-44 ("…the array controller **300** alternates "ON" fan units and "OFF" fan units **200** in a first exemplary…"). Based on the Revised Joint Claim Construction Statement, Defendants appear to base their construction on certain dependent claims that are directed to an array controller that controls individual fans. *See, e.g.*, Claim 23 to the '700 patent at col. 16:20-23 ("wherein the array controller is configured to automatically turn individual ones of the fan ON and OFF").

The Court finds that the claims and specification support Plaintiff's proposed construction that an "array controller" is not limited to controlling individual fans. Defendants' proposed construction improperly confines the term "array controller" to limitations found in the dependent claims. However, the existence of a dependent claim containing particular limitations gives rise to the presumption that the limitation in question is not present in the independent claims. *See Philips*, 415 F.3d at 1315. Defendants have failed to acknowledge or rebut the presumption that the independent claims do not contain a limitation requiring an array controller to control only individual fans. Defendants' proposed construction would also exclude disclosed embodiments in the patent that allow an "array controller" to control multiple fans. For example, the '442 patent describes an embodiment in which the array controller controls a group of fans. *See* '442 patent at col. 2-4. Defendants have failed to offer any evidentiary support as to why "array controller" should be construed in a manner that excludes disclosed embodiments. *See Starhome GmbH v. AT&T Mobility LLC*, 743 F.3d 849, 857 (Fed. Cir. 2014) ("[A] construction that excludes a preferred embodiment is rarely, if ever, correct and would require highly persuasive evidentiary support.") (internal quotations omitted); *In re Katz Interactive Cell Processing Patent Litig. v. Am. Airlines, Inc.*, 639 F.3d 1303, 1324 (Fed. Cir. 2011) ("[T]here is a strong presumption against a claim construction that excludes a disclosed embodiment."). Thus, the Court finds that an "array controller" is not limited to controllers that only control individual fans.

Next, the Court analyzes whether an "array controller" must be construed as specifically being capable of turning fans units on and off or controlling the speed of individual fan units. Plaintiff argues that Defendants' proposed construction improperly imports limitations from preferred embodiments in the specification and narrower dependent claims. Defendants argue that

limitations in dependent claims support their proposed construction of "array controller." As previously discussed, the Federal Circuit has counseled against importing limitations found in dependent claims into the construction of a term. *See Philips*, 415 F.3d at 1315. Defendants have not offered any reason as to why the Court should deviate from this principle. Thus, the Court finds the claims do not support Defendants' proposed construction. Instead, the claims and specifications support the construction that an "array controller" is "a set of components that manage the fan units in the fan array." Construing an "array controller" as "a set of components" is consistent with the patents' description of the array controller as an object that manages the fan units in the fan array. Accordingly, the Court construes an "array controller" as "a set of components that manage the fan units in the fan array."

C. "speed controller"

Plaintiff's Proposal	Defendants' Proposal	Court's Construction
a set of components that raise, lower, and/or maintain the speed of one or more fans in the fan array[5]	Indefinite. Pursuant to the doctrine of claim differentiation, since an "array controller" controls the speed of fans in an array, a speed controller cannot be the same.	a set of components that raise, lower, and/or maintain the speed of one or more fans in the fan array

This disputed term appears in independent claims 1 and 19 and dependent claims 2 and 28 of the '283 patent. Claim 1 of the '283 patent is representative of how the term is used in the claim language:

> 1. A fan array fan section in an air-handling system to supply air to a building, comprising:
> an air handling compartment having a discharge plenum configured to deliver air to a ventilation system for at least a portion of the building;
> a fan array of at least three fan units positioned in the air handling compartment, the fan units having motors and fans, wherein the fan units are stacked adjacent to one another with back ends of the fan units discharging into the discharge plenum where the air mixes to provide substantially uniform airflow for the air-handling system, the motors having a corresponding first speed when driven at a frequency of 60 Hz, the fans being configured to deliver an air flow amount

[5] After the Court proposed modifying the construction of "control system" to include "a set of," Plaintiff agreed to modify its proposed construction of "speed controller" to include "a set of." *Markman* Trans. at 28:3-4, ECF 111.

based on a speed of the corresponding motor; and

a **speed controller** to operate at least one of the motors at a speed that is greater than the first speed to deliver an associated air flow amount from the corresponding one of the fans.

'283 Patent at 15:63-16:14 (emphasis added).

Plaintiff argues that "speed controller" should be construed as "a set of components that raise, lower, and/or maintain the speed of one or more fans in the fan array." Defendants do not offer a construction and instead argue that the "speed controller" is indefinite. While the Court is deferring ruling on all indefiniteness issues until summary judgment, *see supra* n. 3, the Court makes some brief comments on indefiniteness before addressing Plaintiff's proposed construction. According to Defendants, both a "speed controller" and "array controller" control the speed of a fan and pursuant to the doctrine of claim differentiation, a "speed controller" is indefinite. *Markman* Trans. at 79:23-80:8, ECF 111. However, it is not clear that "speed controller" and "array controller" are required to have different meanings. *See, e.g., Curtiss–Wright Flow Control Corp. v. Velan, Inc.*, 438 F.3d 1374, 1380–81 (Fed. Cir. 2006) ("claim drafters can also use different terms to define the exact same subject matter"); *Pickholtz v. Rainbow Techs., Inc.*, 284 F.3d 1365, 1373 (Fed. Cir. 2002) (construing "computer" and "computer system" to mean the same thing because "the patent in this case provides no indication that the two terms mean different things"); *Transocean Offshore Deepwater Drilling, Inc. v. Maersk Contractors USA Inc.*, No. 07-2392, 2008 WL 6071708, at *11 (S.D. Tx. Oct. 22, 2008) ("[T]he fact that multiple terms are used to describe the same operation or function does not render the claims invalid due to indefiniteness.").

The Court finds Plaintiff's proposed construction accurately construes a "speed controller." The claims of the '283 patent indicate that a speed controller may maintain the speed of the fan, *see, e.g.*, claims 1 and 19 of the '283 patent at col. 15:63-16:14, 17:8-26, and raise and lower the speed of a fan, *see* claim 14 of the '283 patent at col. 16:60-61. Since a "speed controller" is an object that is made up of components, the Court finds that it is appropriately described as "a set of components." Accordingly, the Court construes a "speed controller" as "a set of components that raise, lower, and/or maintain the speed of one or more fans in the fan array."

D. "sound attenuation layers"

Plaintiff's Proposal	Defendants' Proposal	Court's Construction
two or more layers of acoustically absorptive material	two or more materials used to absorb sound, which are in contact with one another	two or more layers of acoustically absorptive material

This disputed term appears in dependent claims 26, 27, 28, 29, and 46 of the '442 patent, independent claims 8 and 46 of the '251 patent, independent claims 1 and 40 and dependent claim 45 of the '365 patent, dependent claims 8 and 10 of the '283 patent, dependent claims 2, 3, 6, 37, 38, 39, and 40 of the '700 patent, and dependent claim 7 of the '086 patent. Claim 8 of the '251 patent is representative of how the term is used in the claim language:

> 1. A fan system configured for use in an air-handling system to deliver air to a ventilation system for at least a portion of a building, the fan system comprising:
> an air handling compartment that includes chambers arranged adjacent to one another in at least one row or column, the air handling compartment having a discharge plenum configured to deliver air to a ventilation system for at least a portion of the building, the chambers having corresponding front and back ends;
> motors and fans positioned in the chambers, the fans being located to take in air from the front ends of the corresponding chambers and to discharge the air from the back ends of the corresponding chambers; and
> **sound attenuation layers** that extend along at least a portion of the corresponding chambers such that the **sound attenuation layers** are positioned between at least some of the fans that are adjacent to one another in the corresponding chambers, the chambers opening at the back ends into the discharge plenum where the air mixes to provide substantially uniform airflow for the air-handling system.

'251 Patent at 18:29-49 (emphasis added).

Plaintiff argues that "sound attenuation layers" should be construed as "two or more layers of acoustically absorptive material." *See* Exh. A to RJCCS at 55, ECF 97-1. Defendants contend that "sound attenuation layers" should be construed as "two or more materials used to absorb sound, which are in contact with one another." *Id*. Thus, the parties dispute whether the "sound attenuation layers" must be in contact with each other and whether "sound attenuation layers" require two or more materials.

With respect to whether the "sound attenuation layers" must be in contact with each other, Plaintiff argues that the intrinsic evidence shows that the "sound attenuation layers" do not need to

touch each other. As examples, Plaintiff argues that dependent claims 26, 27, and 28 of the '442 patent do not require the "sound attenuation layers" to be in contact with each other. *See Markman* Trans. at 31:4-32:24, ECF 111. Defendants argue that embodiments discussed in the specification describe "sound attenuation layers" as touching each other. *See* Opp. at 21-22, ECF 89 (discussing how Fig. 19-21 of the '442 patent refer to layers as layers that are in contact with each other). At the *Markman* hearing, Defendants also advanced the argument that since the prior art disclosed sound attenuation that consisted of single layers, in order for Plaintiff's patents to be patentably distinct, Plaintiff's "sound attenuation layers" could not consist of single layers. *Markman* Trans. at 86:5-9, ECF 111.

The claim language and specification support Plaintiff's proposed construction that the "sound attenuation layers" do not have to be in contact with each other. First, the claims expressly state that multiple single layers are layers. *See, e.g.* Claim 29 of the '442 patent at col. 16:12-14 ("The fan array of claim **26**, wherein the sound attenuation layers *each* include a perforated facing and at least *one layer* of insulation material.") (emphasis added). If, as Defendants suggest, "sound attenuation layers" encompassed only multiple layers in contact with each other, there would not be a need for dependent claim 29 to specify that each sound attenuation layer includes at least one layer of insulation material. Second, Defendants' construction is improperly limited to embodiments in which two sound attenuating materials are in direct contact. *See, e.g.* Opp. at 21-22 (describing how Fig. 19 shows an embodiment in which two sound attenuating materials are in contact with each other). Although the claims are read "in view of the specification, of which they are a part, [the Court does] not read limitations from the embodiments in the specification into the claims." *See Hil-Rom Servs., Inc. v. Stryker Corp.*, 755 F.3d 1367, 1372 (Fed. Cir. 2014). "Even when the specification describes only a single embodiment, the claims of the patent will not be read restrictively unless the patentee has demonstrated a clear intention to limit the claim scope using words or expressions of manifest exclusion or restriction." *Id.* (internal quotations omitted). Here, Defendants have not pointed to and the Court has not found any clear intention to limit the claim scope to a particular embodiment disclosed in the patent. Finally, Defendants' argument advanced at the *Markman* hearing with respect to the novelty of the patent is inapplicable at the

claim construction stage of the proceedings. If the Court analyzed claim construction in light of the novelty of the patent, the claim construction analysis would improperly merge with an invalidity analysis. *See Dana Corp. v. Am. Axle & Manuf., Inc.*, 279 F.3d 1372, 1376 (Fed. Cir. 2002) ("[A] court may not invalidate the claims of a patent without construing the disputed limitations of the claims…"). Accordingly, the Court agrees with Plaintiff that the sound attenuation layers are not required to be in contact with each other.

With respect to whether "sound attenuation layers" should be construed as being "two or more materials," both parties agree that "sound attenuation layers" is a plural term. Moreover, both parties agree that "sound attenuation layers" can include a plurality of the same material. However, the parties dispute how to capture the foregoing meaning in the construction of "sound attenuation layers." Plaintiff argues that "two or more layers" encompasses the plurality of the term "sound attenuation layers" and the fact that the layers can be made up of the same material. Pl.'s Mot. at 14, ECF 86. Defendants argue that Plaintiff's definition does not sufficiently indicate that the term "sound attenuation layers" is plural. Defs.' Opp. at 22, ECF 89. Defendants contend that its construction of "two or more materials" accurately construes "sound attenuation layers" as plural while at the same time not requiring the materials to be different materials. *Id*.

The Court finds that Plaintiff's proposed construction better construes the use of "sound attenuation layers" in the patents. While both proposed constructions reflect that "sound attenuation layers" is a plural term, Defendants' construction is ambiguous as to whether "two or more materials" does or does not require two or more different materials. While "two or more materials" does not explicitly require the materials to be different, it leaves open the implication that the materials should be different. Plaintiff's interpretation focuses on the plurality of the word "layers" without being ambiguous as to whether the layers must be of different materials. Accordingly, the Court construes "sound attenuation layers" as "two or more layers of acoustically absorptive material."

E. "fan array of fan units"

Plaintiff's Proposal	Defendants' Proposal	Court's Construction
"fan units" should be construed to mean "units each comprising a fan, motor, and inlet cone" "fan array" should be construed to mean "two or more fan units in an air handling compartment configured to work together to provide air through a ventilation system to a building"	"fan units" (or fan unit): "a fan, motor, and inlet cone." "fan array of fan units" should be construed to mean "two or more fan units (i.e., fan, motor, and inlet cone) parallel to each other."	"fan array": two or more fan units in an air handling compartment configured to work together to provide air through a ventilation system to a building "fan units": units each comprising a fan, motor, and inlet cone

This disputed term appears in independent claims 16 and 38 of the '442 patent and independent claims 1 and 32 of the '700 patent. Claim 16 of the '442 patent is representative of how the term is used in the claim language:

> 16. A fan array fan section in an air-handling system to supply air to a building, comprising:
> an air handling compartment having a discharge plenum configured to deliver air to a ventilation system for at least a portion of the building;
> a **fan array of fan units** positioned in the air handling compartment;
> the fan units configured to be ON and OFF,
> the fan array having redundant air flow capacity such that, when at least one of the fan units is removed or OFF, the fan units that are ON have sufficient air flow capacity to at least meet a specified air capacity for at least the portion of the building.

Before construing the full term, the parties construe "fan units." The parties agree that a fan unit contains a fan, motor, and inlet cone. *See* '442 patent at col. 1:35-39 (describing a fan unit as an inlet cone, a fan, and a motor). The parties differ on whether "fan units" should be construed in the singular or plural. Since "fan units" is used in the plural in "fan array of fan units," the Court construes "fan units" in the plural. Defendants argue that using "units" in the construction of "fan units" will be confusing since the patents also use "units" in conjunction with other terms such as "modular units." Defs.' Opp. at 22-23, ECF 89. The Court disagrees with Defendants and finds that the jury will understand that in a construction of "fan units," using the word "units" refers to "fan units" and not other types of "units." Accordingly, the Court construes

"fan units" as "units each comprising a fan, motor, and inlet cone."

With respect to the full term "fan array of fan units," the parties disagree about how the construction of "fan array of fan units" should reflect the layout of the fans in the array. Plaintiff seeks to describe the physical layout as "fan units in an air handling compartment configured to work together" while Defendants' seek to construe the physical layout as fan units "parallel to each other."

The Court finds the intrinsic evidence supports Plaintiff's construction of "fan array of fan units." Defendants argue that all the figures showing a fan array show the fan units parallel to each other. *See, e.g.*¸ Figs. 3-18 of the '442 patent. While Defendants are correct that the figures show the fan units parallel to each other, the figures all disclose exemplary fan arrays. *See* '442 patent at col. 3:59-4:60 (describing all the figures as "exemplary"). It would be improper to rely on the exemplary figures to limit claims. *See Playtex Prods., Inc. v. Procter & Gamble Co.*, 400 F.3d 901, 907 (Fed. Cir. 2005) (finding that a district court's reliance on figures to limit the claim to a preferred embodiment was improper). Defendants have not pointed to anything else in the patents that support limiting the construction of a "fan array" to those where the fan units are parallel to each other. *Id*. at 908 ("Claims of a patent may only be limited to a preferred embodiment by the express declaration of the patentee."). The specification describes the fan array as multiple fan units that are working together. *See* '442 patent at col. 8:2-13; Fig. 3 of the '442 patent. This supports Plaintiff's proposed construction that the fan units are "configured to work together" to provide air. The Court finds that Plaintiff's proposed construction reflects the use of "fan array of fan units" in the patents and hereby adopts Plaintiff's proposed construction.

F. "nameplate rated speed"

Plaintiff's Proposal	Defendants' Proposal	Court's Construction
the motor's approximate speed at rated load	Defendants have agreed to adopt Plaintiff's proposed definition for "nameplate rated speed" to mean "the motor's approximate speed at rated load," so long as the Court believes this definition will aid the jury.	the motor's approximate speed at rated load

This disputed term appears in dependent claim 18 of the '251 patent, dependent claim 13 of the '365 patent, dependent claim 3 of the '283 patent, and dependent claim 49 of the '086 patent. Claim 18 of the '251 patent is representative of how the term is used in the claim language:

> 18. The system of claim 8, further comprising an array controller configured to operate at least one of the motors at a speed that is greater than a first speed to deliver an associated air flow amount from the corresponding one of the fans, wherein the first speed constitutes a **nameplate rated speed** for the corresponding motor.

'251 Patent at 19:20-25 (emphasis added).

Plaintiff argues that "nameplate rated speed" should be construed as "the motor's approximate speed at rated load." *See* Exh. A to RJCCS at 80-81, ECF 97-1. Defendants note that they agree to Plaintiff's proposed construction for "nameplate rated speed" so long as the Court believes that the definition will aid the jury. *Id.*

The Court finds that "nameplate rated speed" is a term of art and that construing the term would aid the jury in understanding the term. *See Funai Elec. Co., Ltd. v. Daewoo Elecs. Corp.*, 616 F.3d 1357, 1366-67 (Fed. Cir. 2010) ("The criterion [for claim construction] is whether the explanation aids the court and the jury in understanding the term as it is used in the claimed invention."). Since "nameplate rated speed" is a term of art, extrinsic evidence may shed lights on its meaning. *See Markman*, 52 F.3d at 980 (stating that extrinsic evidence may be useful to explain scientific principles, technical terms, terms of art, and the state of the prior art at the time of the invention). Here, the extrinsic evidence supports Plaintiff's proposed construction. *See, e.g.*, Karvelis Decl. at ¶¶ 32-34, ECF 88 ("Within the context of motors used in HVAC systems, the term 'nameplate rated speed' has a well-known and readily understood meaning…[describing various standards organizations and textbooks that have defined 'nameplate rated speed' that is consistent with Plaintiff's proposed construction.]"). Accordingly, the Court adopts Plaintiff's proposed construction.

G. "modular units"

Plaintiff's Proposal	Defendants' Proposal	Court's Construction
units that can be arranged into different configurations	standardized sized chambers (i.e., cell/cube), each containing a single fan and a single motor, designed such that the chamber can be removed or replaced with reasonable effort.	units that can be arranged into different configurations

This disputed term appears in independent claims 1 and 40 and dependent claims 42, 44, 45, and 53 of the '365 patent and independent claims 1 and 40 and dependent claims 3 and 4 of the '086 patent. Claim 1 of the '365 patent is representative of how the term is used in the claim language:

> 1. A modular fan system configured for use in an air-handling system configured to deliver air to a ventilation system for at least a portion of a building, the fan system comprising:
> a plurality of **modular units** configured to be stacked adjacent to one another in at least one row or column to form an array for use in an air-handling system configured to deliver air to a ventilation system for at least a portion of a building, the **modular units** each including a chamber having a front end and a back end;
> motors and fans positioned in the chambers of the **modular units**, the fans located to take in air from the front ends of the corresponding chambers and to discharge air from the back ends of the corresponding chambers;
> and sound attenuation layers that extend along at least a portion of the corresponding chambers such that the sound attenuation layers are positioned between at least some of the fans when the **modular units** are stacked adjacent to one another in the array, such that, when the **modular units** are stacked, the chambers open at the back ends into a common discharge plenum where the air mixes to provide substantially uniform airflow for the air-handling system.

'365 Patent at 17:27-49 (emphasis added).

Plaintiff argues that "modular units" should be construed as "units that can be arranged into different configurations" while Defendants argue that the term should be construed as "standardized sized chambers (i.e., cell/cube), each containing a single fan and a single motor, designed such that the chamber can be removed or replaced with reasonable effort."[6] Thus, the

[6] Although not mentioned in its briefing, *see* Defs' Opp. at 23-24, at the *Markman* Hearing, Defendants pointed out for the first time that some of the patents may interchangeably use "modular units" and "chambers." *See Markman* Trans. at 90-94, ECF 111. However, Defendants did not explain the impact this may have on claim construction and conceded that this is more

parties dispute whether the construction of "modular units" should include: (1) "standardized sized chamber"; (2) limiting the unit to one fan and one motor; (3) the ability to remove or replace the modular unit with reasonable effort; and (4) the ability to be arranged into different configurations. For the reasons discussed below, the Court finds the intrinsic evidence supports Plaintiff's proposed construction.

With respect to "standardized sized chambers," the intrinsic evidence does not support Defendants' proposed construction. The claims indicate that the "modular units" are not necessarily all the same standard size as some "modular units" may have more than one chamber. *See* Claim 24 of the '365 patent at col 19:4-6 ("…the modular units includes at least two chambers…"). The file history also confirms that "modular units" include chambers of various sizes. *See* Exh. P to Beebe Decl. ('365 patent file history) at CESF00001249, ECF 87-16 ("the chambers may have various cross-sectional shapes…").

Defendants also argue that "modular units" should be limited to one fan and one motor. However, the claims directly refute this proposed construction. Claim 24 of '365 patent claims a modular unit with at least two motors and two fans. '365 patent at col 19:4-6 ("…the modular units includes at least two chambers, each of the chambers including the corresponding motor and fan.").

Defendants argue that the construction of "modular units" should include the effort needed to remove or replace the unit. Defendants derive this limitation from an exemplary embodiment disclosed in the '442 patent. *See* '442 patent at col 10:8-18 (describing an embodiment shown in Fig. 16 where the units may be easily removed, maintained, and/or replaced). However, other embodiments disclosed in the patents do not describe the effort required to remove, maintain, or replace the modular units. *See, e.g.*, '442 patent at col 10:24-33 (describing an embodiment shown in Fig. 17 without mentioning the effort required to remove, maintain, or replace the modular units). Thus, adding the effort required to remove or replace the "modular units" would improperly import a limitation from a preferred embodiment into the construction of the term. *See*

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relevant to indefiniteness. *Id*. at 92:16-18. Since the Court is deferring all rulings on indefiniteness, the Court does not address this argument.

Phillips, 415 F.3d at 1323.

Plaintiff argues that the ability to be arranged into different configurations should be included in the construction of "modular units." The patents indicate that "modular units" can be configured into various arrangements. *See* '442 patent at col 9:66-10:7 (describing modularity as "plug and play"). In light of the specification and claims, it is clear that the patents use modularity to focus on the initial implementation of the units. Although other traits of modularity are mentioned, such as re-arrangement and replacement, these traits are mentioned in embodiments and are not limitations on the term "modular units." As a result, the patents support Plaintiff's proposed construction that focuses on the initial implementation of the units and how they can be arranged in different configurations. Accordingly, the Court adopts Plaintiff's proposed construction of "modular units" and construes "modular units" as "units that can be arranged into different configurations."

H. "synchronous speed"

Plaintiff's Proposal	Defendants' Proposal	Court's Construction
the speed of the motor stator's magnetic field rotation when the frequency of the current delivered to the motor equals the frequency of the supply current delivered to the air-handling system.	Indefinite. Alternative: a motor in which the rotation of the shaft is equal to the frequency of the supply current.	the speed of the motor stator's magnetic field rotation when the frequency of the current delivered to the motor equals the frequency of the supply current delivered to the air-handling system.

This disputed term appears in dependent claim 19 of the '251 patent, dependent claim 14 of the '365 patent, dependent claim 30 of the '283 patent, dependent claims 8 and 21 of the '175 patent, and dependent claim 50 of the '086 patent. Claim 19 of the '251 patent is representative of how the term is used in the claim language:

> 19. The system of claim 8, further comprising an array controller configured to operate at least one of the motors at a speed that is greater than a first speed to deliver an associated air flow amount from the corresponding one of the fans, wherein the first speed constitutes **synchronous speed** for the corresponding motor.

'251 Patent at 19:26-31 (emphasis added).

Plaintiff contends that "synchronous speed" should be construed as "the speed of the motor

stator's magnetic field rotation when the frequency of the current delivered to the motor equals the frequency of the supply current delivered to the air-handling system," *see* Exh. A to RJCCS at 107, ECF 97-1, while Defendants contend that it should be construed as "a motor in which the rotation of the shaft is equal to the frequency of the supply current." Plaintiff supports its proposed construction through the declaration of Dr. Albert Karvelis and several textbooks in the field. *See* Karvelis Decl. at ¶¶ 35-38, ECF 88. Defendants argue that Plaintiff's constructions are confusing and propose a construction derived from the Wikipedia entry for synchronous motor. *See* Exh. A to RJCCS at 112, ECF 97-1 (citing to the Wikipedia definition of "synchronous motor").

Similar to "nameplate rated speed," "synchronous speed" is also a term of art, *see* Karvelis Decl. at ¶ 35, ECF 88 ("Within the context of motors used in HVAC systems, the term 'synchronous speed' has a well-known and readily understood meaning."), and extrinsic evidence may be useful in construing it, s*ee Markman*, 52 F.3d at 980. The Court finds that Defendants' proposed construction has two issues. First, Defendants' proposed construction defines "synchronous speed" as a motor which appears to be the result of Defendants' deriving the construction from the Wikipedia entry for synchronous *motor* rather than synchronous speed. This overlooks the fact that the speed of an object is how fast the object is moving and not the object itself. Second, Defendants' proposed construction construes "synchronous speed" as the speed of the motor shaft rather than the magnetic field of the motor's stator. This contradicts Dr. Karvelis' expert declaration, and numerous textbooks in the field. *See* Karvelis Decl. at ¶ 38, ECF 88 (explaining how the speed of the motor is not always equal to the "synchronous speed"); Exh. A to RJCCS at 107-108 (listing textbooks that define "synchronous speed" as the speed at which the magnetic field rotates). Defendants derive their construction from Wikipedia which is written by "anonymous volunteers." *See* http://en.wikipedia.org/wiki/Wikipedia:About (the "About Wikipedia" entry). "Anyone with Internet access can write and make changes to Wikipedia articles …from expert scholars to casual readers," and "[Wikipedia] is more easily vandalized or susceptible to unchecked information." *Id.* Without knowing who wrote the Wikipedia entry and their credentials, the Court cannot give any weight to a construction from Wikipedia, especially

when that construction is at odds with an expert declaration and textbooks in the field. Accordingly, the Court construes "synchronous speed" as "the speed of the motor stator's magnetic field rotation when the frequency of the current delivered to the motor equals the frequency of the supply current delivered to the air-handling system."

I. "motors and fans positioned in the chambers"

Plaintiff's Proposal	Defendants' Proposal	Court's Construction
No construction necessary.	"Motors and fans positioned in the chambers": "two or more chambers, each containing a single motor and a single fan." "Motors and fans": "two or more motors, each of which is connected to a single fan." "Chambers": "a rectangular six-sided cell or cube which is designed to contain a single fan unit." "Multiple chambers": "more than one rectangular six-sided cell or cube, each of which is designed to contain a single fan unit."	plain and ordinary meaning

This disputed term appears in independent claim 8 of the '251 patent, independent claim 1 of the '365 patent, and independent claim 1 of the '086 patent. Claim 8 of the '251 patent is representative of how the term is used in the claim language:

> 8. A fan system configured for use in an air-handling system to deliver air to a ventilation system for at least a portion of a building, the fan system comprising:
> an air handling compartment that includes chambers arranged adjacent to one another in at least one row or column, the air handling compartment having a discharge plenum configured to deliver air to a ventilation system for at least a portion of the building, the chambers having corresponding front and back ends;
> **motors and fans positioned in the chambers**, the fans being located to take in air from the front ends of the corresponding chambers and to discharge the air from the back ends of the corresponding chambers; and
> sound attenuation layers that extend along at least a portion of the corresponding chambers such that the sound attenuation layers are positioned between at least some of the fans that are adjacent to one another in the corresponding chambers, the chambers opening at the back ends into the discharge plenum where the air mixes to provide substantially uniform airflow for the air-

handling system.

'251 Patent at 18:29-49 (emphasis added).

Plaintiff argues that no construction is necessary because a jury would readily understand the term "motors and fans in the chambers." Plaintiff argues that the "ordinary and customary meaning of the words is apparent…particularly so in light of the claims and specification." Pl.'s Mot. at 22, ECF 86. In response, Defendants seek to construe "motors and fans in the chambers" because "the family of patents use various confusingly similar terms as chambers, such as air handling compartments, fan units, modular fan units, etc." Defs.' Opp. at 25, ECF 89.

Starting with Defendants' proposed construction, Defendants do not explain and it is not clear to the Court why Plaintiff's alleged use of confusingly similar terms such as air handling compartments, fan units, and modular fan units require the term "motors and fans in the chambers" to be construed. Defendants' proposed construction that each chamber is limited to one motor and one fan improperly limits the claims to exemplary embodiments in the specification. *See* Exh. A to RJCCS at 112-116 (using Fig. 17 of the '442 patent as support for Defendants' construction); '442 patent at col. 4:55 (describing Fig. 17 as an "exemplary fan array"). The Federal Circuit "has repeatedly warned against confining claims" to the specific embodiments set forth in the specification, *Phillips*, 415 F.3d at 1323, and Defendants do not indicate any express limitation of the claims or a clear disavowal of claim scope to support their proposed construction.

Defendants' proposed construction also limits the geometry of the chamber to a rectangular six-sided cell or cube. However, the specifications and claims only require chambers and do not limit the chamber to a particular geometric shape. During the prosecution of the '365 patent, the applicant stated that "the independent claims do not require that the chambers have a particular cross-sectional shape. For example, the chambers may have various cross-section shapes, such as rectangular, square, octagon, hexagon, pentagon, circular, triangular and the like." *See* Exh. P to Beebee Decl. ('365 patent file history) at CESF00001249, ECF 87-16. Defendants contend that these statements should not be given any weight because they did not make it into the claims or specification. Defs.' Opp. at 25, ECF 89. However, statements made during prosecution are not

required to be incorporated into the specification – such a requirement would defeat the purpose of having the Court examine the prosecution history when construing claims. The Court finds that "motors and fans positioned in the chambers" does not need to be construed because all the words in the term are neither unfamiliar nor confusing to the jury. The meaning of the term "motors and fans positioned in the chambers" would also be clear to a person of ordinary skill in the art. Thus, the Court adopts the plain and ordinary meaning for the construction of "motors and fans in the chambers."

J. "ventilation system"

Plaintiff's Proposal	Defendants' Proposal	Court's Construction
system that supplies air to at least a portion of a building	"A system, separate from the air handling system, that supplies air to at least a portion of a building."	system that supplies air to at least a portion of a building

This disputed term appears in independent claims 16 and 38 of the '442 patent, independent claims 8 and 46 of the '251 patent, independent claims 1 and 40 of the '365 patent, independent claims 1 and 19 of the '283 patent, independent claims 1 and 32 of the '700 patent, and independent claims 1 and 40 of the '086 patent. Claim 16 of the '442 patent is representative of how the term is used in the claim language:

> 16. A fan array fan section in an air-handling system to supply air to a building, comprising:
> an air handling compartment having a discharge plenum configured to deliver air to a **ventilation system** for at least a portion of the building;
> a fan array of fan units positioned in the air handling compartment;
> the fan units configured to be ON and OFF,
> the fan array having redundant air flow capacity such that, when at least one of the fan units is removed or OFF, the fan units that are ON have sufficient air flow capacity to at least meet a specified air capacity for at least the portion of the building.

'442 Patent at 15:17-33 (emphasis added).

The parties largely agree on the construction of "ventilation system" and only dispute whether a "ventilation system" should be construed as separate from the air handling system. Plaintiff notes that the parties agreed on the construction of "air[-]handling system" as "a structure that includes components designed to work together in order to condition air as part of the primary

system for ventilation of buildings or rooms." RJCCS at 2, ECF 97. Plaintiff argues that this agreed upon construction indicates that the air-handling system is "part of" and not "separate from" the ventilation system. Defendants argue that "separate from" is not intended to mean that the air-handling system is separated by space and time from the ventilation system but rather that the air-handling system is its own discrete unit which is part of a larger ventilation system. *Markman* Trans. at 97:14-15, ECF 111. The Court finds that Plaintiff's proposed construction reflects the meaning of ventilation system as used in the patents. Although Defendants' notion that the air-handling system is a discrete part of the ventilation system is not incorrect, including "separate from" in the construction of ventilation system introduces the ambiguity that the air-handling system is not a part of the ventilation system. The phrase "separate from" implies that the air-handling system and ventilation system are separate and not related or interconnected systems. Given the parties' agreed upon construction for "air-handling system," the Court does not find it necessary to further indicate that the "ventilation system" includes an "air-handling system." Accordingly, the Court construes "ventilation system" as a "system that supplies air to at least a portion of a building."

IV. ORDER

For the foregoing set forth above, the Court construes the disputed terms as follows:

Claim Term	Court's Construction
control system	a set of components that operate the air handling system
array controller	a set of components that manage the fan units in the fan array
speed controller	a set of components that raise, lower, and/or maintain the speed of one or more fans in the fan array
sound attenuation layers	two or more layers of acoustically absorptive material
fan array of fan units	"fan array": two or more fan units in an air handling compartment configured to work together to provide air through a ventilation system to a building "fan units": units each comprising a fan, motor, and inlet cone
nameplate rated speed	the motor's approximate speed at rated load.
modular units	units that can be arranged into different

	configurations
synchronous speed	the speed of the motor stator's magnetic field rotation when the frequency of the current delivered to the motor equals the frequency of the supply current delivered to the air-handling system
motors and fans positioned in the chambers	plain and ordinary meaning
ventilation system	system that supplies air to at least a portion of a building

Dated: November 2, 2015

BETH LABSON FREEMAN
United States District Judge

United States District Court
Northern District of California