

**UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF ILLINOIS
EASTERN DIVISION**

PIPP MOBILE STORAGE SYSTEMS, INC.,)	
)	
Plaintiff,)	
)	No. 21 C 2104
v.)	
)	Judge Sara L. Ellis
INNOVATIVE GROWERS EQUIPMENT,)	
INC.)	
)	
Defendant.)	

OPINION AND ORDER

Plaintiff Pipp Mobile Storage Systems, Inc. (“Pipp”) brought this action against Defendant Innovative Growers Equipment, Inc. (“Innovative”) asserting that Innovative infringes U.S. Patent No. 10,806,099 (the “’099 Patent”) through the sale of certain air flow systems. The parties now seek construction of several terms in the ’099 Patent. The Court held a claim construction hearing on June 27, 2022, and now construes the disputed terms as set forth below.

BACKGROUND

The ’099 Patent, titled “System and Method for Providing Carbon Dioxide and Circulating Air for a Vertical Gardening System,” involves a system and method of circulating air and carbon dioxide and providing light to a vertical gardening system. Vertical farming typically involves growing plants in vertically stacked layers indoors, where space is at a premium. The invention was aimed at “improv[ing] the circulation of air, improv[ing] the distribution of carbon dioxide, and us[ing] smaller filters that occupy less space, as well as improv[ing] transpiration.” JX000029, col. 2, ll. 1–4. To that end, the invention “eliminates the problem of stagnant air pockets created in indoor vertical farming where space is limited” and

“disburses carbon dioxide directly onto each row of crops growing on a different shelf of a rack assembly,” which “insures that each plant receives an equal quantity of carbon dioxide.”

JX000029, col. 2, ll. 12–20. The invention also uses a compact air filtration system, with filters “on the supply side of an air circulation system” that both clean and circulate air. JX000029, col. 2, ll. 21–36.

The inventors of the '099 Patent filed a provisional patent application on August 24, 2017 (Serial No. 62/549,919) and another on July 31, 2018 (Serial No. 62/712,675). A parent application was filed on October 11, 2017 (Serial No. 15/730,659), which issued as Patent No. 10,694,682 (the “'682 Patent”). The '099 Patent application was filed on August 2, 2018, claiming priority to all three earlier filing dates. The '099 Patent issued on October 20, 2020.

Pipp asserts claims 25–27, 45, 50, 58, and 59 of the '099 Patent against Innovative.

Independent claim 25 provides:

A flow distribution assembly, comprising:

a housing having an air inlet portion; and

an elongated duct fluidly coupled to an outlet portion of the housing and having a plurality of openings defined on a lower surface of the elongated duct, wherein the elongated duct extends from the housing and where the elongated duct is configured to be positioned upon and extend along a rack and where the housing is directly secured to the elongated duct, wherein air passing through the air inlet portion is received into the housing in a downward direction and the air passing through the outlet portion is received into the elongated duct in a horizontal direction.

JX000036, col. 16, ll. 49–61. Claims 26 and 27 depend from claim 25.

Independent claim 45 provides:

A flow distribution system, comprising:

a rack having at least a first platform and a second platform positioned below the first platform;

a housing having an air inlet portion;

an elongated duct fluidly coupled to an outlet portion of the housing and having a plurality of openings defined on a lower surface of the elongated duct, wherein the elongated duct extends from the housing and where the elongated duct is configured to be positioned below the first platform and extend through the rack such that the plurality of openings are directed towards the second platform underlying the first platform, wherein air passing through the air inlet portion is received into the housing in a downward direction and the air passing through the outlet portion is received into the elongated duct in a horizontal direction; and

a fan fluidly coupled to the housing and extending away from the rack and where the housing is directly secured to the elongated duct.

JX000037, col. 17, l. 64–col. 18, l. 16. Claims 50, 58, and 59 depend from claim 45.

LEGAL STANDARD

“Judicial ‘construction’ of patent claims aims to state the boundaries of the patented subject matter, not to change that which was invented.” *Fenner Invs., Ltd. v. Cellco P’ship*, 778 F.3d 1320, 1323 (Fed. Cir. 2015). Not all claims require construction, only those in dispute and only to the extent necessary to resolve the dispute. *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999). Where the “plain and ordinary meaning of the disputed claim language is clear,” such as where the term “is comprised of commonly used terms” that have “no special meaning in the art,” the Court may conclude that no construction is necessary. *Summit 6, LLC v. Samsung Elecs. Co.*, 802 F.3d 1283, 1291 (Fed. Cir. 2015); *see also Phillips v. AWH Corp.*, 415 F.3d 1303, 1314 (Fed. Cir. 2005) (“In some cases, the ordinary meaning of claim language as understood by a person of skill in the art may be readily apparent even to lay judges, and claim construction in such cases involves little more than the application of the widely accepted meaning of commonly understood words.”).

The Court’s inquiry begins by considering how a person of ordinary skill in the art would understand a claim term. *Phillips*, 415 F.3d at 1313 (“[I]nventors are typically persons skilled in the field of the invention and that patents are addressed to and intended to be read by others of skill in the pertinent art.”). The Court primarily relies on intrinsic evidence, which “includ[es] the claims themselves, the specification, and the prosecution history of the patent.” *Sunovion Pharms., Inc. v. Teva Pharms. USA, Inc.*, 731 F.3d 1271, 1276 (Fed. Cir. 2013). The Court considers a claim term “not only in the context of the particular claim in which the disputed term appears, but in the context of the entire patent, including the specification.” *Phillips*, 415 F.3d at 1313. The prosecution history, which “consists of the complete record of the proceedings before the [U.S. Patent and Trademark Office (“PTO”)] and includes the prior art cited during the examination of the patent,” can help “inform the meaning of the claim language by demonstrating how the inventor understood the invention and whether the inventor limited the invention in the course of prosecution, making the claim scope narrower than it would otherwise be.” *Id.* at 1317. The presumption of ordinary meaning prevails in all but two situations: (1) “when a patentee acts as his own lexicographer” or (2) “when the patentee disavows the full scope of the claim term in the specification or during prosecution.” *Poly-Am., L.P. v. API Indus., Inc.*, 839 F.3d 1131, 1136 (Fed. Cir. 2016). “[T]he standard for disavowal is exacting, requiring clear and unequivocal evidence that the claimed invention includes or does not include a particular feature.” *Id.*

While the Court must construe claims in light of the specification, it cannot read limitations from the preferred embodiments or specific examples in the specification into the claims. *Enercon GmbH v. Int’l Trade Comm’n*, 151 F.3d 1376, 1384 (Fed. Cir. 1998). “[P]atent coverage is not necessarily limited to inventions that look like the ones in the figures.” *MBO*

Lab'ys, Inc. v. Becton, Dickinson & Co., 474 F.3d 1323, 1333 (Fed. Cir. 2007). Thus, while the Court may use the specification to aid in the interpretation of the claims, it may not use the specification as a source for adding extraneous limitations. *Renishaw PLC v. Marposs Societa' per Azioni*, 158 F.3d 1243, 1249 (Fed. Cir. 1998). But the Court may limit the claims based on the specification “where the specification makes clear at various points that the claimed invention is narrower than the claim language might imply.” *Alloc, Inc. v. Int'l Trade Comm'n*, 342 F.3d 1361, 1370 (Fed. Cir. 2003).

“In most situations, an analysis of the intrinsic evidence alone will resolve any ambiguity in a disputed claim term.” *Vitronics Corp. v. Conceptoronic, Inc.*, 90 F.3d 1576, 1583 (Fed. Cir. 1996). But the Court may in its discretion refer to extrinsic evidence, such as dictionaries, treatises, and expert testimony, to help “educate the court regarding the field of the invention and . . . determine what a person of ordinary skill in the art would understand claim terms to mean.” *Phillips*, 415 F.3d at 1319; *Vitronics*, 90 F.3d at 1585 n.6 (“Judges are free to consult such resources at any time in order to better understand the underlying technology and may also rely on dictionary definitions when construing claim terms, so long as the dictionary definition does not contradict any definition found in or ascertained by a reading of the patent documents.”). Extrinsic evidence in general, however, is considered “less reliable than the patent and its prosecution history in determining how to read claim terms,” *SkinMedica, Inc. v. Histogen Inc.*, 727 F.3d 1187, 1195 (Fed. Cir. 2013) (citation omitted), and “may not be used to vary or contradict the claim language” or “the import of other parts of the specification,” *Vitronics*, 90 F.3d at 1584.

ANALYSIS

I. “a housing having an air inlet portion” (Claims 25, 26, 27, 45, 50, 58, 59)

Innovative proposes to construe the term “a housing having an air inlet portion” used in independent claims 25 and 45, and incorporated in dependent claims 26, 27, 50, 58, and 59, as “a housing having a filter and an air inlet portion,” while Pipp asks the Court to construe the term as “an air enclosure having an air inlet portion,” without any reference to a filter.

Innovative argues that the specification never suggests that the housing can function without a filter. *See* Doc. 52 at 10–12 (identifying embodiments that require “filter housing”); JX000031, col. 6, ll. 47–48 (stating that, in one embodiment, “[w]hen the air enters the plenum through the fan 105, the air must pass [] through the air filters 111”). This, according to Innovative, means that the Court must read a filter into the claim term. *See ICU Med., Inc. v. Alaris Med. Sys., Inc.*, 558 F.3d 1368, 1375 (Fed. Cir. 2009) (“The specification never suggests that the spike can be anything other than pointed.”); *Gentry Gallery, Inc. v. Berkline Corp.*, 134 F.3d 1473, 1480 (Fed. Cir. 1998) (“[C]laims may be no broader than the supporting disclosure, and therefore . . . a narrow disclosure will limit claim breadth.”).

Pipp maintains, however, that the specification does not require a filter at all times, emphasizing that the embodiments are only examples of the claims. *See Thorner v. Sony Comput. Entm’t Am. LLC*, 669 F.3d 1362, 1368 (Fed. Cir. 2012) (“Simply . . . disclosing embodiments that all use the term the same way is not sufficient to redefine a claim term.”). Pipp also points out that none of the claims at issue refer to a filter or recite “filter housing,” instead only generally referencing “a housing.” Pipp maintains that, in the context of these claims, the housing provides for airflow between the inlet portion and at least one outlet portion of the housing but does not require a filter. Further, it emphasizes that, in the application for the ’099 Patent, the independent claims recited a “filter housing,” JX000653–56, with the modifier

of a filter deleted from the claims during the patent’s prosecution, JX000111, 122–125. And the Patent Examiner allowed the claims without mentioning a filter housing or a filter as a distinction that prompted allowance. *See* JX000090–03.

The Court agrees with Pipp that it would be inappropriate to read the term “filter” back into the claims where the inventor deleted it during the patent’s prosecution. *See Decisioning.com, Inc. v. Federated Dep’t Stores, Inc.*, 527 F.3d 1300, 1309 (Fed. Cir. 2008) (“[T]he effect of this amendment [deleting references to a kiosk housing during patent prosecution] was to remove the requirement that the remote interface be enclosed by a kiosk housing.”); *Tex. Instruments Inc. v. U.S. Int’l Trade Comm’n*, 871 F.2d 1054, 1065 (Fed. Cir. 1989) (“Ambiguous claims, whenever possible, should be construed so as to preserve their validity. This rule of construction, however, does not justify reading into a claim a limitation that it does not contain and that the patentee deleted from the claim during prosecution.”). Further, the Court cannot find that the inventor clearly intended to limit the scope of the asserted claims to housing that must contain a filter, particularly given the patent’s specific notation that the embodiments serve only as examples of the claims. JX000036, col. 15, ll. 11–13 (“[A]s the . . . claims reflect, inventive aspects lie in less than all features of any single foregoing disclosed embodiment.”); *see Liebel-Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 906 (Fed. Cir. 2004) (“[T]his court has expressly rejected the contention that if a patent describes only a single embodiment, the claims of the patent must be construed as being limited to that embodiment. 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.’” (citations omitted)). And by referring in places to “housing” and others to “filter housing,” the patent language

strongly suggests that a filter need not make up part of the housing unless so specified. *Phillips*, 415 F.3d at 1314 (“[T]he claim in this case refers to ‘steel baffles,’ which strongly implies that the term ‘baffles’ does not inherently mean objects made of steel.”). Having resolved the parties’ dispute as to whether to read such a limitation into the claim in the negative and because the meaning of housing is otherwise clear, the Court gives the term “a housing having an air inlet portion” its plain and ordinary meaning.

II. “Flow Distribution Assembly/System” (Claims 25, 26, 27, 45, 50, 58, 59)

The Court next considers the term “flow distribution assembly/system,” which appears in independent claims 25 and 45, as well as dependent claims 26, 27, 50, 58, and 59. The parties’ dispute centers around whether the invention requires the distribution of carbon dioxide. Innovative proposes that “flow distribution assembly/system” should be construed as “an assembly/system for distributing air and carbon dioxide,” while Pipp maintains that it should be construed as “an assembly/system for distributing at least air.”

Innovative argues that without distributing both air and carbon dioxide, the invention does not work. Innovative points to the specification’s summary of the invention, which states that the ’099 Patent is “directed towards a system and method for circulating air *and* carbon dioxide and providing light to a vertical gardening system.” JX000029, col. 2, ll. 8–10 (emphasis added). Innovative also points out that the title of the patent (“system and method for providing carbon dioxide and circulating air for a vertical gardening system”) references both providing carbon dioxide and circulating air, not just air circulation. The specification also indicates that the “*carbon dioxide system* can perform various functions including: circulate air around each of the plants, provides an even distribution of carbon dioxide to each of the plants and filters the recirculating air.” JX000030, col. 3, ll. 53–56 (emphasis added).

Although the title of the '099 Patent and references throughout the specification to a “carbon dioxide distribution system” suggest that the distribution of carbon dioxide is essential to the invention, upon closer examination, that argument crumbles. Initially, the specification includes language indicating that the addition of carbon dioxide is an optional feature of the invention. *See, e.g.*, JX000031, col. 5, ll. 50–54 (“With the air 204 drawn into the fan 105, through the filter 111, and into the filter housing 101, the air 204 may be *optionally* mixed with carbon dioxide (or any other gas) and the mixture 205 may be conveyed through the ducts 117 for distribution.” (emphasis added)); JX000030, col. 4, ll. 55–60 (“The illustrations show how one assembled distribution system 100 may be attached below a first shelf 110 so that the air *and/or* carbon dioxide may be distributed from the duct 117 and onto any plants which may be placed upon a second shelf 112 located below the first shelf 110 and duct 117.” (emphasis added)). Innovative’s expert even admitted that the specification’s language establishes that the system could provide only air and need not also distribute carbon dioxide. *See* Doc. 55-19 at 75. Further, as Pipp pointed out at the claim construction hearing, the '099 Patent’s abstract contains no references to carbon dioxide.¹ *See* JX000001.

The doctrine of claim differentiation also supports this conclusion. Claim differentiation provides that “the presence of a dependent claim that adds a particular limitation raises a presumption that the limitation in question is not found in the independent claim.” *Acumed LLC v. Stryker Corp.*, 483 F.3d 800, 806 (Fed. Cir. 2007) (quoting *Liebel-Flarsheim Co.*, 358 F.3d at 910). Claim differentiation’s presumption “is especially strong when the limitation in dispute is

¹ According to the PTO’s Manual of Patent Examining Procedure, the abstract includes “a summary of the disclosure as contained in the description, the claims, and any drawings; the summary shall indicate the technical field to which the invention pertains and shall be drafted in a way which allows the clear understanding of the technical problem, the gist of the solution of that problem through the invention, and the principal use or uses of the invention.” PTO, Manual of Patent Examining Procedure § 1826, PCT Rule 8.1(a).

the only meaningful difference between an independent and dependent claim,” in other words, where reading a limitation into the independent claim would render the claims identical in scope. *SunRace Roots Enter. Co. v. SRAM Corp.*, 336 F.3d 1298, 1303 (Fed. Cir. 2003). Claims 25 and 45 refer to “air” but do not mention carbon dioxide, discussing only an “air inlet portion,” “air passing through the air inlet portion,” and “air passing through the outlet portion.” JX000036, col. 16, ll. 49–61; JX000037, col. 17, l. 64–col. 18, l. 16. Dependent claims 30 and 52, on the other hand, add a requirement of a “carbon dioxide input.” JX000037, col. 17, ll. 14–17; JX000037, col. 18, ll. 48–52. This additional limitation in the dependent claims raises the presumption that distribution of carbon dioxide is not included in the term “flow distribution assembly/system” used in claims 25 and 45. *See Acumed LLC*, 483 F.3d at 806 (“[T]he presence of a dependent claim that adds a particular limitation raises a presumption that the limitation in question is not found in the independent claim.” (quoting *Liebel-Flarsheim Co.*, 358 F.3d at 910)).

Finally, the prosecution history supports finding that carbon dioxide distribution remains an optional and not essential feature of the invention. The claims of parent application 15/730,659, which issued as the ’682 Patent, recite “an apparatus for dispersing carbon dioxide gas,” JX000983–86, while the ’099 Patent’s independent claims only reference a “flow distribution assembly/system” with an “air inlet portion,” JX000036, col. 16, ll. 49–61; JX000037, col. 17, l. 64–col. 18, l. 16. This indicates that the inventors knew how to claim the inclusion of both air and carbon dioxide, but chose only to claim air as a requirement in the ’099 Patent. *See Takeda Pharm. Co. v. Zydus Pharms. USA, Inc.*, 743 F.3d 1359, 1365 (Fed. Cir. 2014) (refusing to rewrite claim term where other claim limitations used the proposed language

but the claim term did not, indicating that the inventor knew how to include the proposed language “when they so desired”).

Thus, the Court construes the term “flow distribution assembly/system,” as “an assembly/system for distributing at least air.”

III. “Elongated Duct” (Claims 25, 26, 27, 45, 50, 58, 59)

With respect to “elongated duct,” the parties focused on different aspects of the term in their claim construction briefing, with Innovative attempting to limit the term by the material of the duct while Pipp focuses on the meaning of the term “elongated.” More specifically, Innovative proposed construing “elongated duct” as “a rigid hollow elongated passageway.” Pipp originally proposed construing it as “a duct that is long in proportion to its width,” proposing further that, if “duct” needs to be construed, the Court adopt the construction “an air tube that is long in proportion to its width.” At the claim construction hearing, however, Pipp agreed that the Court could give “elongated duct” its plain and ordinary meaning and Innovative agreed that the Court did not need to construe the term “elongated.” Thus, the Court focuses solely on the parties’ dispute as to the material of the duct.

Innovative argues that the duct must be formed out of rigid, and not flexible, material so as to allow the claimed invention to operate and function properly. But the Court disagrees. Innovative relies on selected embodiments in an improper attempt to import the rigidity limitation into the asserted claims. *See Liebel-Flarsheim Co.*, 358 F.3d at 913 (“[I]t is improper to read limitations from a preferred embodiment described in the specification—even if it is the only embodiment—into the claims absent a clear indication in the intrinsic record that the patentee intended the claims to be so limited.”); *Toro Co. v. White Consol. Indus., Inc.*, 199 F.3d 1295, 1301 (Fed. Cir. 1999) (“It is well established that the preferred embodiment does not limit broader claims that are supported by the written description.”). For example, although the

specification provides that the ducts may be made of metal or aluminum, it does not restrict the ducts to these rigid materials. *See, e.g.*, JX000032, col. 7, ll. 60–61 (one embodiment explaining that “[t]he distribution ducts 117 *can* be a metal duct system made from aluminum or galvanized sheet metal” (emphasis added)). Innovative also argues that the ducts *must* act as heat sinks, *see* JX000033, col. 10, ll. 15–20 (“The ducts 117 can function as heat sinks for heat generated by the light bars 145 and the ballasts 143.”), and as such must be rigid, *see* Doc. 52-5, Broz Decl. ¶ 20 (opining that a non-rigid flexible or fabric duct cannot act as a heat sink). But again, this language only provides one optional feature of a duct (“can function”) as opposed to a requirement. Similarly, Innovative relies on the specification’s discussion of the mounting of light bars to the ducts and the manner in which the ducts are secured to the racks to argue that the invention would not function if non-rigid ducts were used. *See* JX000034, col. 12, ll. 58–62 (providing that “light bars 145 can be suspended with wires or other supports below the ducts” or “mounted directly to the bottom of the ducts”); JX000030–31, col. 4, l. 65–col. 5, l. 1 (discussing how the distribution system, which is comprised of ducts and other elements, is “slidingly secured or removed from the rack system 200”). None of the claims at issue reference rigidity, the need for the elongated ducts to support anything, or the manner in which the duct must be fastened to the rack, with Innovative’s arguments relying on language in other claims that is not found in independent claims 25 or 45. Finally, Innovative maintains that the specification requires the ducts to act as flow diverters, claiming that ducts can only do this if they are made of rigid material. *See* JX000035–36, col. 13, l. 64–col. 14, l. 3 (“In another embodiment, the ducts may be configured to provide the flow diversion rather than attaching a separate mechanism.”); JX000036, col. 15, ll. 36–37 (claim 1 describing “one or more flow diverters which are removably positioned to slide upon a portion of the first elongated duct to project at least

partially into the first elongated duct extending from at least one of the first plurality of openings”); Doc. 52-5, Broz Decl. ¶ 19 (opining that the specification of flow diverters indicates that the inventors envisioned rigid ductwork). As Innovative acknowledged at the claim construction hearing, however, claim 25 does not require a flow diverter, with that requirement deleted during prosecution of that claim. *Compare* JX000346 (application claim 39, which became claim 25), *with* JX000249 (claim 25). Under Innovative’s reasoning that flow diverters require rigid surfaces, this deletion further suggests that the asserted claims do not include a rigidity requirement.

Thus, the Court cannot agree with Innovative that it must impute a rigidity requirement into the term duct. And because the parties otherwise have not suggested that the term “duct” has any other special meaning, the Court finds no reason to further construe this term and adopts its plain and ordinary meaning for the purposes of this case.

IV. “where the elongated duct is configured to be positioned below the first platform and extend through the rack” (Claims 45, 50, 58, 59)

The Court next considers the term “where the elongated duct is configured to be positioned below the first platform and extend through the rack,” which appears in independent claim 45 and dependent claims 50, 58, and 59. Innovative proposes construing the term as “where the elongated duct is configured to be positioned and directly secured below the first platform and extend through the rack.” In its briefing, Pipp proposed the construction “where the elongated duct is configured to be located under the first platform and extend through the rack.” At the claim construction hearing, however, Pipp agreed that the Court could give the term its plain and ordinary meaning. The parties’ dispute thus centers mainly around whether the duct must be directly attached to the first platform of the rack.

Innovative argues that the term provides no meaningful guidance as to the orientation of the ducts relative to the first platform and rack and claims that its construction removes the ambiguity by adding in that the duct be “directly secured below” the first platform. Innovative claims the specification supports its construction because several embodiments and all of the ’099 Patent’s figures depict the ducts secured directly underneath the shelves, putting them in continuous contact with the shelves throughout their length. *See, e.g.*, JX000035, col. 14, ll. 9–16 (describing how “the ducts 117 may be integrated directly with the racks to form a combined rack and air distribution system,” which “may directly incorporate one or more of the ducts 117 directly below the shelves 301, 302 by being secured directly under the respective shelf, e.g., bolted, screwed, riveted, braced, etc.”); JX000030–31, col. 4, l. 67–col. 5, l. 1 (describing how the ducts can “be slidingly secured or removed from the rack”).

But, as Pipp points out, claim 45 focuses on the positioning of the duct relative to the rack, not how it is secured. That claim’s language underscores this conclusion, as it demonstrates that the inventors knew how to add requirements concerning attachment to the claim language but chose not to do so to describe the relationship between the duct and the platform. *Cf.* JX000037, col. 18, ll. 14–15 (claim 45 requires that “the housing is directly secured to the elongated duct”); *see In re OxyContin Antitrust Litig.*, No. 04 Md. 1603, 2014 WL 2198590, at *10 (S.D.N.Y. May 27, 2014) (“The fact that the patentees expressly stated that polymer (C) could also serve as a controlled release matrix material shows that they knew exactly how to establish dual functionality when they wanted to.”). And while the specification includes examples of embodiments where the duct is directly secured to the shelf, the specification does not suggest that these are the only possible embodiments. *See, e.g.*, JX000035, col. 14, ll. 9–16 (“[T]he ducts 117 *may be* integrated directly with the racks to form a

combined rack and air distribution system,” which “*may* directly incorporate one or more of the ducts 117 directly below the shelves 301, 302 by being secured directly under the respective shelf, e.g., bolted, screwed, riveted, braced, etc.” (emphasis added)); *E.I. du Pont de Nemours & Co. v. Phillips Petroleum Co.*, 849 F.2d 1430, 1433 (Fed. Cir. 1988) (“Where a specification does not *require* a limitation, that limitation should not be read from the specification into the claims.” (quoting *Specialty Composites v. Cabot Corp.*, 845 F.2d 981, 987 (Fed. Cir. 1988))). Further, even assuming that all of the drawings show the ducts directly secured to the shelf, as Innovative argues, “the mere fact that the patent drawings depict a particular embodiment of the patent does not operate to limit the claims to that specific configuration.” *Prima Tek II, L.L.C. v. Polypap, S.A.R.L.*, 318 F.3d 1143, 1148 (Fed. Cir. 2003); *see also MBO Lab ’ys, Inc.*, 474 F.3d at 1333 (“[P]atent coverage is not necessarily limited to inventions that look like the ones in the figures.”). In other words, the Court cannot conclude that the inventors intended for this claim term to require the duct to be directly secured below the first platform.

Eliminating the requirement of directly securing the duct below the first platform, the parties’ constructions reflect the plain and ordinary meaning of the term, with Pipp agreeing at the claim construction hearing that “below” needs no construction. Thus, the Court will give the disputed term its plain and ordinary meaning.

V. “where the elongated duct is configured to be positioned upon and extend along a rack” (Claims 25, 26, 27)

The Court next considers the term “where the elongated duct is configured to be positioned upon and extend along a rack,” which appears in independent claim 25 and dependent claims 26 and 27. The Court must first address Innovative’s argument that the term is indefinite. “Section 112 requires that a patent specification ‘conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his

invention.” *Sonix Tech Co. v. Publ’ns Int’l, Ltd.*, 844 F.3d 1370, 1377 (Fed. Cir. 2017). This requires that “a patent’s claims, viewed in light of the specification and prosecution history, inform those skilled in the art about the scope of the invention with reasonable certainty.”

Nautilus, Inc. v. Biosig Instruments, Inc., 572 U.S. 898, 910 (2014). Innovative must prove indefiniteness by clear and convincing evidence. *Sonix*, 844 F.3d at 1377. Where the intrinsic evidence, *e.g.*, the specification, provides guidance on the scope of the claim such that a skilled artisan could with reasonable certainty know what is claimed, the claim is not indefinite. *Id.*

Here, Innovative has not shown by clear and convincing evidence that a person of ordinary skill in the art could not know “with reasonable certainty” what is claimed. Innovative contends that a person of ordinary skill in the art could not determine from the specification “how or where to position the ducts other than directly underneath the shelves of a rack,” Doc. 52 at 23, which would make the “positioned upon” language in claim 45 coextensive with the “positioned below” language in claim 25. *See Nystrom v. TREX Co.*, 424 F.3d 1136, 1143 (Fed. Cir. 2005) (“When different words or phrases are used in separate claims, a difference in meaning is presumed.”). But Innovative ignores that claim 25 is written in terms of placement with respect to a platform of the rack, while claim 45 refers to placement in relation to the rack as a whole. On that point, the specification sufficiently suggests the positioning of the ducts in relation to the *racks*, *i.e.*, that they be contained somewhere on those racks, which sufficiently bounds the claim. *See Invitrogen Corp. v. Biocrest Mfg., L.P.*, 424 F.3d 1374, 1384 (Fed. Cir. 2005) (“[A] patentee need not define his invention with mathematical precision in order to comply with the definiteness requirement.” (citation omitted)); *SmithKline Beecham Corp. v. Apotex Corp.*, 403 F.3d 1331, 1340–41 (Fed. Cir. 2005) (“The test for indefiniteness does not depend on a potential infringer’s ability to ascertain the nature of its own accused product to

determine infringement, but instead on whether the claim delineates to a skilled artisan the bounds of the invention.”). Thus, the Court does not find this claim term indefinite.

As for the construction of this term, Innovative proposes “where the elongated duct is configured to be positioned on top of and extend along the shelves of the rack.” It again maintains that requiring the duct to be “on top of” the shelves differentiates the “positioned upon” language in claim 25 from the “positioned below the first platform” language in claim 45. *See Nystrom*, 424 F.3d at 1143 (difference in language in separate claims suggests a difference in meaning). But, as already discussed, the claim language at issue does not specify the positioning of the duct relative to a shelf, none of the disclosed embodiments refer to a duct being “on top of” a shelf. *See Johns Hopkins Univ. v. CellPro, Inc.*, 152 F.3d 1342, 1355 (Fed. Cir. 1998) (“A patent claim should be construed to encompass at least one disclosed embodiment in the written description portion of the patent specification. . . . A claim construction that does not encompass a disclosed embodiment is thus ‘rarely, if ever, correct and would require highly persuasive evidentiary support.’” (quoting *Vitronics*, 90 F.3d at 1583)). Instead, the claim language relates to the positioning of the duct in relation to the rack, which warrants giving the term its plain and ordinary meaning.

VI. “a fan fluidly coupled to the housing and extending away from the rack” (Claims 45, 50, 58, 59)

The Court next considers the term “a fan fluidly coupled to the housing and extending away from the rack,” which is found in independent claim 45 and dependent claims 50, 58, and 59. Innovative first argues that this term is indefinite because it does not explain how the fan “extend[s] away from the rack.”² It cites for support the definition for “extend” as an intransitive verb of “to stretch out in distance.” Doc. 52-2, “extend,” Merriam-Webster Dictionary.

² Although Innovative also argued in its reply brief that the term “fluidly coupled” was indefinite, it abandoned this argument at the claim construction hearing and so the Court does not discuss it further.

Innovative argues that because a fan is generally a flat, stationary object that rotates around a central axis in a single plane, it cannot “stretch out” in any direction and thus cannot “extend[] away from the rack.” Doc 52 at 25. Innovative also maintains that “extend” is indefinite because “no matter where the fan is positioned on the filter housing, the orientation of the fan will necessarily point toward some portion of the rack,” meaning there is no way to construe the term with reasonable certainty. *Id.* at 26.

But the Court again finds that Innovative has not carried its burden to demonstrate by clear and convincing evidence the indefiniteness of the term. Innovative’s argument that a person of ordinary skill in the art cannot determine how the fan extends from the rack does not find support in the patent. Instead, the drawings and language of the patent indicate that “extending away from the rack” means that at least a portion of the fan is found outside of the rack. *See* JX000030, col. 4, ll. 19–20 (describing how the fan “can be mounted outside of the pallet rack volume on an end of the pallet rack”); JX000032, col. 8, ll. 21–22 (same). Even Innovative’s expert admitted that the embodiments describing the fan “extending from the rack” meant that the fan was partially located outside the rack. Doc. 55-19, Broz Dep. 78–82. And although this understanding does not track the definition for “extend” that Innovative cites, the patent indicates that the inventor intended for “extends away from” to mean that the fan is partially housed outside the rack, with the inventor’s meaning controlling. *See AstraZeneca LP v. Apotex, Inc.*, 633 F.3d 1042, 1051–52 (Fed. Cir. 2011) (“[T]he specification may reveal a special definition given to a claim term by the patentee that differs from the meaning it would otherwise possess. In such cases, the inventor’s lexicography governs.’ The specification need not reveal such a definition explicitly. ‘[W]hen a patentee uses a claim term throughout the entire patent specification, in a manner consistent with only a single meaning, he has defined that

term by implication.” (citations omitted)). Therefore, the Court does not find the term indefinite and instead concludes that “extending away from the rack” means that it is partially located outside of the rack.

As for the other component of this term, neither party clearly proposed a construction for the term “fluidly coupled,” with Pipp maintaining that the term “fluidly coupled” is commonly used and means that the fan provides air flow to the housing. In response to the Court’s observation that its construction omitted the “coupling” function, Pipp agreed to the Court’s proposal of “a fan that is attached to the housing such that it can provide a flow of air.” Innovative did not propose an alternative construction, and so the Court will use this definition for “fluidly coupled.” Thus, the Court construes the entire term as “a fan that is attached to the housing such that it can provide a flow of air and is partially located outside of the rack.”

VII. “rack” (Claims 25, 26, 27, 45, 50, 58, 59)

Last, the Court considers the term “rack.” Innovative argues that the Court should give “rack” its plain and ordinary meaning, while Pipp contends that the Court should construe it as “a stand with upright supports and two or more vertically stacked growing regions.” Although the Court agrees that this term requires construction, it also does not find that Pipp’s construction clearly conveys the meaning of the term as used in the ’099 Patent. The Court does agree that the ’099 Patent envisions a stand with upright supports, as opposed to, for example, a support system on the side of a garage from which plant containers hang, which could fall within the ordinary understanding of the term “rack.” *See* Doc. 52-4, “rack,” Merriam-Webster Dictionary (defining “rack” as a “framework, stand, or grating on or in which articles are placed”); *Nystrom*, 424 F.3d at 1145 (“[I]n the absence of something in the written description and/or prosecution history to provide explicit or implicit notice to the public—i.e., those of ordinary skill in the art—that the inventor intended a disputed term to cover more than the ordinary and customary

meaning revealed by the context of the intrinsic record, it is improper to read the term to encompass a broader definition simply because it may be found in a dictionary, treatise, or other extrinsic source.”).

But Pipp’s proposed terminology of “two or more vertically stacked growing regions” is confusing and does not accurately reflect the invention. As Innovative points out, the specification discusses racks having shelves, not “vertically stacked growing regions,” and so the Court finds it appropriate to construe the term in reference to such shelves. Further, the specification and embodiments indicate that a rack may have a varying number of shelves, but must always include at least one shelf. *See, e.g.*, JX000030, col. 4, ll. 51–55 (discussing “a pallet rack system 200 having one or more shelves”); JX000031, col. 5, ll. 6–9 (“The shelves in any of the embodiments described herein may vary in the number of shelves utilized per rack and may also vary in size. For example, one variation of the one or more shelves may each range in length from”); JX000035, col. 14, ll. 18–22 (“With this embodiment and with any of the other embodiments described herein, the racks may incorporate a single shelf, two shelves, or multiple shelves (e.g., up to six shelves or more than six shelves) depending upon the desired number of shelves.”). Therefore, the Court construes “rack” to mean “a stand with upright supports and at least one shelf.”

CONCLUSION

The Court adopts the following constructions for the '099 Patent:

Claim Term	Court's Construction
“a housing having an air inlet portion” (claims 25, 26, 27, 45, 50, 58, 59)	Plain and ordinary meaning
“a flow distribution assembly/system” (claims 25, 26, 27, 45, 50, 58, 59)	“an assembly/system for distributing at least air”
“elongated duct” (claims 25, 26, 27, 45, 50, 58, 59)	Plain and ordinary meaning
“where the elongated duct is configured to be positioned below the first platform and extend through the rack” (claims 45, 50, 58, 59)	Plain and ordinary meaning
“where the elongated duct is configured to be positioned upon and extend along a rack” (claims 25, 26, 27)	Not indefinite; plain and ordinary meaning
“a fan fluidly coupled to the housing and extending away from the rack” (claims 45, 50, 58, 59)	Not indefinite; “a fan that is attached to the housing such that it can provide a flow of air and is partially located outside of the rack”
“rack” (claims 25, 26, 27, 45, 50, 58, 59)	“a stand with upright supports and at least one shelf”



Dated: October 19, 2022

SARA L. ELLIS
United States District Judge