

United States Court of Appeals for the Federal Circuit

05-1299

SEMITOOL, INC.,

Plaintiff-Appellant,

v.

DYNAMIC MICRO SYSTEMS SEMICONDUCTOR EQUIPMENT GMBH,

Defendant-Appellee.

Jerry A. Riedinger, Perkins Coie LLP, of Seattle, Washington, argued for plaintiff-appellant. With him on the brief was Michael D. Broaddus.

George T. Schooff, Harness, Dickey & Pierce, P.L.C., of Troy, Michigan, argued for defendant-appellee. Of counsel was Michael P. Doerr.

Appealed from: United States District Court for the Northern District of California

Judge William H. Alsup

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Plaintiff-Appellant,

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DYNAMIC MICRO SYSTEMS SEMICONDUCTOR EQUIPMENT GMBH,

Defendant-Appellee.

DECIDED: April 6, 2006

Before LINN, DYK, and PROST, Circuit Judges.

PROST, Circuit Judge.

Semitool, Inc. and Dynamic Micro Systems Semiconductor Equipment GmbH (“DMS”) both manufacture and sell competing semiconductor wafer carrier cleaning systems. In 2001, Semitool sued DMS alleging that DMS’s Model 300 and 310 cleaning devices infringed Semitool’s patents. The parties entered into a settlement agreement that provided for a stipulated injunction with regard to DMS’s Model 300 and 310 and to any colorable variants. Both the agreement and the injunction explicitly retained the district court’s jurisdiction over the future enforcement of the agreement and the injunction. Subsequently, DMS produced a new device called the Tornado, which Semitool claims violates their settlement agreement and the injunction by literally infringing the patent claims. The district court denied the motion to enforce the

permanent injunction and the settlement agreement and instead granted DMS's cross-motion for summary judgment of non-infringement. As the district court properly granted the cross-motion for summary judgment of non-infringement, we affirm.

I.

On October 8, 1996, Semitool, Inc. was issued United States Patent No. 5,562,113 ("the '113 patent"). The '113 patent is entitled, "Centrifugal Wafer Carrier Cleaning Apparatus" and as the title suggests, the '113 patent describes a "cleaning apparatus for rinsing and drying carriers used to hold and process semiconductor wafers, substrates, flat panel displays and similar articles." '113 patent, col. 1, ll. 10-13. Semitool also filed continuation patent applications based on the '113 patent application. From these continuation applications, Semitool received two more patents: United States Patent No. 5,738,128 ("the '128 patent") which, like the '113 patent, claimed a centrifugal wafer carrier apparatus and United States Patent No. 5,972,127 ("the '127 patent"), which claimed a method of cleaning and drying wafer carriers.

As described in the '127 patent,

the processing of semiconductor wafers and substrates is very sensitive to problems of contamination. . . . [I]t is necessary to maintain a high level of cleanliness during all or nearly all stages of production.

Semiconductor wafers, substrates, photomasks, flat panel displays and other similar low-contamination wafer products are also typically processed in batches. . . . Batch processing of this type almost always utilizes some type of carrier or carriers to hold the thin wafer-like materials being processed.

'127 patent, col. 1, ll. 25-42. As a result, specialized cleaning machines are needed to maintain the cleanliness of the carriers. These machines both wash and dry the carriers. Centrifugal drying machines as described in the '113, '128 and '127 patents are one type of these specialized cleaning machines. They operate by spinning the

carriers at high speeds whereby cleaning solvents are readily spun off the carriers and, furthermore, the induced airflow dries the carriers by removing any residual solvent.

DMS manufactured and sold carrier-cleaning machines. In prior litigation, Semitool sued DMS for patent infringement alleging that two DMS products, the Model 300 and the Model 310 wafer carrier cleaners, infringed the claims of the '113, '128, and '127 patents. During that proceeding, the district court construed the claims of the patents in a claim construction order. The district court granted Semitool's motion for summary judgment of infringement as to the Model 300 but denied the motion as to the Model 310. See Semitool, Inc. v. Dynamic Micro Sys. Semiconductor Equip. GmbH, No. C 01-01391, 2002 U.S. Dist. LEXIS 23050 (N.D. Cal. Sept. 5, 2002). Thereafter, the parties entered a settlement agreement.

In the settlement agreement, DMS agreed not to make, use, offer to sell, or import any infringing device. As part of the agreement, the parties stipulated to enter into a permanent injunction barring DMS from infringing any claims of Semitool's patents. Both the agreement and the injunction explicitly retained the district court's jurisdiction to enforce the agreement or the injunction. The agreement further specified that DMS's Model 300 and Model 310, as configured, admittedly infringed the patents and so would any device that is no more than a colorable variant of the Model 300 and Model 310. The settlement agreement also stated how to construe Semitool's patent claims in the event of any future infringement determinations:

The Court's construction of phrases and terms used in the claims of the Semitool Patents, as specified in the Court's Final Claim Construction Order dated June 17, 2002, shall be used in determining whether DMS is infringing any claims of the Semitool Patents in violation of this Agreement or the Stipulated Permanent Injunction.

See Semitool, Inc. v. Dynamic Micro Sys. Semiconductor Equip. GmBH, No. C 01-01391, slip op. at 5 (N.D. Cal. Feb. 14, 2005) (“Semitool Order”).

DMS has developed a new carrier cleaning system called the Tornado. On July 16, 2004, DMS filed an action seeking a declaratory judgment that its Tornado system did not infringe any of Semitool’s patent claims. On September 21, 2004, the parties stipulated to dismiss the declaratory judgment complaint and instead the district court reopened the original patent infringement litigation. Semitool sought to enforce the injunction and to enforce the settlement agreement arguing that the Tornado system literally infringed its patents. DMS argued that the Tornado is colorably different from its previous models and does not infringe the patent claims, and therefore it does not violate the settlement agreement or the terms of the injunction.

The district court considered the differences between the Tornado system, the patent claims, and the previous infringing models sold by DMS and concluded that the Tornado was colorably different from the infringing models and did not infringe Semitool’s patents. It granted DMS’s cross-motion for summary judgment of non-infringement and therefore denied Semitool’s motion to enforce the permanent injunction and settlement agreement. Id. at 9.

On March 15, 2005, Semitool appealed the district court’s decision to this court. We have jurisdiction under 28 U.S.C. § 1295(a)(1).

II.

“Summary judgment is appropriate when there is no genuine issue as to any material fact and the moving party is entitled to judgment as a matter of law.” Baxter Int’l, Inc. v. COBE Labs., Inc., 88 F.3d 1054, 1057 (Fed. Cir. 1996) (citing Fed. R. Civ.

P. 56(c); Johnston v. IVAC Corp., 885 F.2d 1574, 1576-77 (Fed. Cir. 1989)). In their settlement agreement, the parties agreed that the terms of the agreement “shall be governed in all respects by the law of the State of California.” Under California law, “the interpretation of a contract is a question of law subject to de novo review” on appeal. Int’l Rectifier Corp. v. SGS-Thompson Microelectronics, 38 USPQ2d 1083, 1101 (C.D. Cal. 1994). Furthermore, contract interpretation is governed by the objective intent of the parties as embodied in the words of the contract. Beck v. Am. Health Group Int’l, Inc., 211 Cal. App. 3d 1555, 1562 (1989). As stated above, the parties agreed that “the Court’s Final Claim Construction Order dated June 17, 2002, shall be used in determining whether DMS is infringing any claims of the Semitool Patents.” Thus, in determining infringement, the district court and this court on appeal focus on the district court’s Final Claim Construction Order.

A.

In the present case, Semitool alleges that the Tornado system infringes claims 1, 4, 9, 17, 19, 39, 55, 56, and 57 of the ’113 patent as well as claims 28-33 of the ’127 patent. Of these asserted claims, claims 1 and 39 of the ’113 patent and claim 28 of the ’127 patent are independent claims. For purposes of the current dispute, there are two important claim limitations in each of these patent claims. Independent claim 1 of the ’113 patent reads:

1. A centrifugal cleaner for cleaning carriers used in semiconductor processing, comprising:
...
a processing vessel defining a process chamber therewithin;
... [and]
at least one drying gas supply for supplying drying gas to the process chamber

Independent claim 39 of the '113 patent reads:

39. A centrifugal cleaner for cleaning carriers used in semiconductor processing, comprising:

. . .

a processing vessel defining a process chamber therewithin;

. . . [and]

at least one primary drying gas supply for supplying primary drying gas to the process chamber

And independent claim 28 from the '127 patent reads:

28. A process for cleaning carriers used to hold semiconductor articles, comprising:

. . .

a processing chamber within the processing vessel;

. . . [and]

supplying drying gas to the processing chamber.

Claim 28 of the '127 patent requires “a processing chamber within the processing vessel” and furthermore “supplying drying gas to the processing chamber.” Almost identical limitations are found in the rest of the asserted claims. The current dispute centers on defining the processing vessel, the processing chamber, and supplying drying gas to the processing chamber.

The district court construed this last claim limitation in its Final Claim Construction Order and held that “drying gas” meant

[a]n air or other gas with a low-contamination level that is capable of readily absorbing evaporated cleaning liquid from the carriers and removing said vapor(s) from the process chamber as the air or other gas is evacuated therefrom. Although it may be treated [i.e., treated by use of a heater], treatment is not a requirement so long as the “drying gas” is of low-contamination level and capable of readily absorbing evaporated cleaning liquid and removing said vapor(s) from the process chamber as the air or other gas is evacuated therefrom.

Semitool Order, slip op. at 5. The phrase “supplying drying gas to the process chamber” was construed to mean

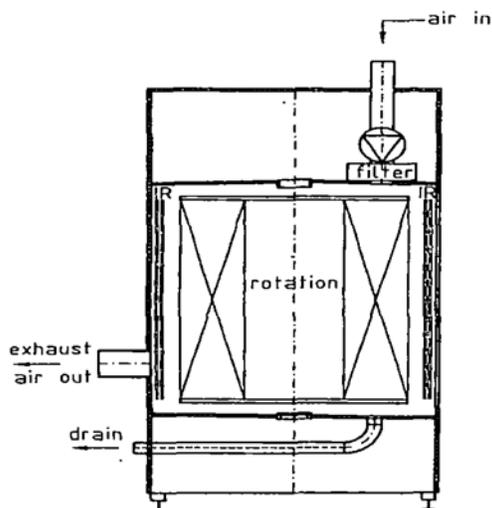
the introduction of “drying gas” into the process chamber. Once inside the process chamber, all that is required is that the “drying gas” has a low-contamination level and is capable of readily absorbing evaporated cleaning liquid from the carriers and removing said vapor(s) from the process chamber as it is evacuated therefrom. Thus, the process chamber may include a device to enhance the absorption/removal capabilities of the “drying gas” inside the chamber, i.e., a heater inside the process chamber.

Id.

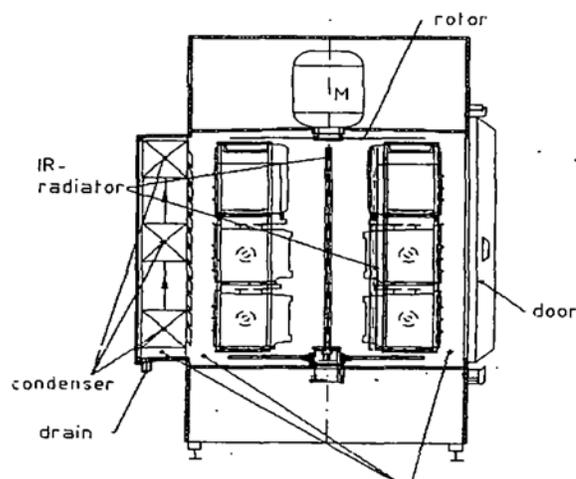
Based on this claim construction, the district court then turned to the allegations of infringement. The district court noted that the parties disputed two things: “(1) whether the condenser [in the Tornado] supplies drying gas to the process chamber and (2) whether the condenser is part of the process chamber or a separate unit.” Id. at 6.

As to the second question, the district court observed that Semitool “argues that ‘the condensing unit used in the Tornado system is outside the process chamber.’ Meanwhile [DMS] argues that the condenser is not a separate unit” Id. But ultimately, the district court concluded that “[i]n light of the ruling below, it is not necessary to reach this issue.” Id. In other words, the district court did not delve into the precise definition of the processing chamber, nor did the district court reach the question whether the condenser in the Tornado resides inside or outside the processing chamber. Instead it focused only on the first question and concluded that “[r]egardless of whether the condenser is merely an area within the process chamber or a separate unit, it does not ‘supply a drying gas to the process chamber.’” Id. at 7.

DMS's infringing Model 300



DMS's new M204 Tornado



In answering the first question, the district court discussed how the admittedly infringing Model 300 supplied drying gas to the processing chamber.¹ In the Model 300 (shown above on left), drying air enters the processing chamber and then is exhausted out of the apparatus in a similar fashion to that described in Semitool's patent. As shown on the right, DMS's Tornado does not have an external air inlet or external air outlet as did the Model 300. As described by the district court,

Defendant's design-around product, the Tornado system, differs from the Model 300 in several respects; most importantly, the centrifugal fan that previously supplied clean room air to and the exhaust vent that allowed air to evacuate from the process chamber have been removed. Instead, as air circulates within the Tornado system, it passes a series of condensing plates located at the rear of the process chamber, behind a spray guard; this area of the device was called the "condenser" during depositions. These condensing plates are kept cool with a cooling liquid, such that the air becomes cooler as it passes, thereby causing moisture to precipitate onto the glass. This "cooler and drier" portion of air is re-circulated with the rest of the air. The mean humidity gradually decreases as the air in

¹ Claims 1 and 39 include a process chamber while claim 28 includes a processing chamber. We make no distinction between these two claim terms and we treat them as synonymous.

the process chamber absorbs more evaporated cleaning liquid from the carriers. This repeats until all or nearly all of the water vapor is removed from the process chamber.

Id. at 6. The district court held that the Tornado system could not supply drying gas to the processing chamber as required by the claims, concluding that

[r]ather, [the condenser in the Tornado] treats “drying gas” that was already within the process chamber, which is a closed system that merely re-circulates the gas therein. Thus, the Tornado system does not infringe the ’113 patent or the ’127 patent. Moreover, [the Tornado] is “more than colorably different” from the Model 300 and Model 310. . . .

Id. at 7. Accordingly, the district court granted DMS’s motion for summary judgment of non-infringement and denied Semitool’s motion to enforce the settlement agreement and the permanent injunction.

B.

On appeal, Semitool argues the district court improperly granted the cross-motion for summary judgment of non-infringement by limiting the scope of Semitool’s invention to cover only those systems that supply drying gas from an external source. Semitool argues that its patent claims do not require an external source of drying gas and that the Tornado system’s condenser must only supply drying gas to the processing chamber as required by the claims. Semitool argues that the dried air flowing out of the condenser in the Tornado meets the District Court’s constructions of both “drying gas” and “supplying drying gas to the processing chamber.” The air absorbs and removes the solvents inside the Tornado system’s processing chamber by carrying away vapor as the drying gas is evacuated from the process chamber. Semitool argues that it does not matter that the air dried by the condenser originally came from the processing chamber. Nothing in the claims, specification or prosecution history of Semitool’s patent

requires an “open system” in which the drying gas is “new air” that originates from some location outside the cleaning system. With regard to the claim language, Semitool argues that the dried air is a drying gas that leaves the condenser and is supplied to the processing chamber. The Tornado system’s condenser removes moisture from the air while the air is outside the processing chamber and introduces the dried air back into the processing chamber.

Semitool recognizes that its arguments are predicated upon locating the condenser outside the processing chamber—an issue the district court did not reach. If the condenser is located inside the processing chamber, then it cannot introduce drying gas into nor remove drying gases from the processing chamber. To support its contention that the condenser is not inside the processing chamber, Semitool argues that the processing chamber should be interpreted to extend only to the region where carriers are loaded, cleaned, and dried. Accordingly, with such an interpretation, the condenser in the Tornado would be located outside the processing chamber.

Semitool makes four related arguments to support its interpretation of processing chamber. First, it points to DMS’s own admissions in the first infringement proceedings regarding the Model 300 device and its process chamber where DMS stated that “the central area of the DMS Model 300 contains a vessel defining a process chamber in which wafer carriers are loaded, cleaned, and dried.” Second, Semitool points to DMS’s own literature describing a “process chamber” in its Tornado with dimensions that seemingly cannot include the condenser. Third, Semitool points to DMS’s own expert that testified that the usable interior space of the Tornado does not include the region containing the condenser thus inferring that the condenser is outside the process

chamber. Lastly, Semitool points to the spray protection wall in the Tornado device that separates the condenser from the area where the carriers are cleaned. Semitool argues that this physical barrier proves that the condenser cannot be part of the process chamber.

On the other hand, DMS maintains that the condenser is necessarily inside the processing chamber and therefore the Tornado cannot infringe. DMS argues that Semitool's construction of "process chamber" proposed in its appeal brief—only the "usable area in the center of the system in which the wafer carriers are, loaded, cleaned and dried,"—is contrary to the patent specification. Rather, it submits that according to the specification the processing chamber encompasses the entire interior of the processing vessel and not just the central region of the vessel as contended by Semitool and that the '127 patent specification expressly contradicts Semitool's suggested interpretation of the term processing chamber. The specification states:

The outer bottom wall piece 77 [of the processing vessel] has a processing chamber outflow opening or port [132] formed therethrough adjacent to the outflow box [131]. Liquids drain across the bottom wall [77] of the processing bowl [21] and into the outflow box [131]. Gases flow from the processing chamber [47] through the outflow port [132] into the outflow box 131.

'127 patent, col. 7, ll. 20-27. From this language, DMS argues that the '127 patent specification expressly includes the area below the bottom baffle 85 and above the processing vessel's bottom wall 77 as part of the "processing chamber." Because that region is not the "usable area in the center of the system in which the wafer carriers are, loaded, cleaned and dried," DMS argues that this passage shows that Semitool's interpretation cannot be supported by the specification and that the correct conclusion is that the "processing chamber" is the entire enclosed area bounded by the processing

vessel's walls. According to DMS, because the processing chamber encompasses the entire interior of the processing vessel, then the Tornado's condenser is squarely within the process chamber and therefore the Tornado cannot infringe the patent claims.

III.

We ultimately conclude that it was proper to grant the motion for summary judgment of non-infringement albeit taking issue with some of the reasoning relied upon by the district court. Although the district court determined that it need not decide "whether the condenser is part of the process chamber or a separate unit," Semitool Order, slip op. at 6, we find that summary judgment of non-infringement can only be properly granted if we determine that the condenser is inside the processing chamber.

The district court decided it did not have to reach that issue because "[r]egardless of whether the condenser is merely an area within the process chamber or a separate unit, it does not 'supply a drying gas to the process chamber.'" Id. "The Tornado system is a closed system, meaning no external air enters or exits the machine during operation," and in the Tornado system "there is no introduction of 'drying gas'" into the process chamber. Id.

As stated above, the Claim Construction Order construed "supplying drying gas to the process chamber" to require that "supplying gas is introduced into the process chamber" and furthermore "once inside the process chamber, all that is required is that the 'drying gas' . . . is capable of readily absorbing evaporated cleaning liquid from the carriers and removing said vapor(s) from the process chamber as it is evacuated therefrom." Id. The Claim Construction Order focuses on introduction of gas into the process chamber and evacuation of drying gas from the process chamber. Whether

gases enter or are evacuated from the processing chamber, as required by the claims, is quite different from whether “air enters or exits the machine during operation” as described by the district court in its infringement determination. For example, depending on how the processing chamber is defined, air may not exit the machine but nonetheless could be introduced into the processing chamber and could remove vapors from the processing chamber. Specifically, as argued by Semitool, if the condenser were located outside the processing chamber and yet still within the machine then the condenser could potentially introduce drying gases into the processing chamber and could remove vapors when drying gases are evacuated from the processing chamber despite the fact that the apparatus as a whole is a closed system. Because of this, we find it is necessary to reach the question that the district court did not reach: Is the condenser inside the processing chamber or is it outside the processing chamber?

While the Claim Construction Order does not explicitly construe the term “processing chamber,” the term appears throughout the Claim Construction Order. As a result, in order to resolve this dispute, we must turn to the standard tools of claim construction to determine what the Claim Construction Order meant when it used the term “processing chamber.”

In order to properly understand how the district court was using this term in its Claim Construction Order, it is necessary to define the relationship between the processing chamber and the major structural limitation in the patent: the processing vessel. Semitool argues that the processing chamber encompasses only the area inside the processing vessel where wafer carriers are loaded, cleaned, and dried. In other words, the processing chamber is only the central region of the processing vessel;

the other outlying regions of the processing vessel are not part of the processing chamber. In contrast, DMS argues that the processing chamber encompasses the entire enclosed area bounded by the processing vessel's walls and that this interpretation is based on the specification from the '127 and '113 patents.

In resolving this issue, we begin with the claims. "Quite apart from the written description and the prosecution history, the claims themselves provide substantial guidance as to the meaning of particular claim terms." Phillips v. AWH Corp., 415 F.3d 1303, 1314 (Fed. Cir. 2005) (en banc). "First, we look to the words of the claims themselves, both asserted and nonasserted, to define the scope of the patented invention." Vitronics Corp. v. Conceptoronic, Inc., 90 F.3d 1576, 1582 (Fed. Cir. 1996).

Asserted independent claims 1 and 39 of the '113 patent have the limitation that the apparatus contain "a processing vessel defining a process chamber therewithin." In fact, as described above, Semitool supports its interpretation by pointing to DMS's own admissions wherein DMS stated that "the central area of the DMS Model 300 contains a vessel defining a process chamber in which wafer carriers are loaded, cleaned, and dried." Semitool argues that this supports their interpretation of process chamber. We do not agree. In fact, according to the explicit language of the claims themselves, the process chamber is defined as the interior of the processing vessel. For these claims, there is no doubt that the processing chamber encompasses the entire interior of the processing vessel and this conclusion is consistent with DMS's interpretation of processing chamber.

Asserted claim 28, however, presents a more complex question. In contrast to the other asserted claims, independent claim 28 of the '127 patent does not itself

contain the limitation of “a processing vessel defining a processing chamber therewithin.” Rather, that claim only specifies “a processing chamber within the processing vessel.” All that can be concluded from claim 28 itself is that the processing chamber must be within the processing vessel. In other words, according to claim 28, the processing chamber could constitute the entire interior of the process vessel or it could constitute some smaller space within the processing vessel. However, the clear definition of the process chamber language in the claims of the earlier ’113 parent application suggests the same definition of the processing chamber in the continuation application which issued as the ’127 patent. See, e.g., NTP, Inc. v. Research in Motion, Ltd., 418 F.3d 1282, 1293 (Fed. Cir. 2005); Microsoft Corp. v. Multi-Tech Sys., Inc., 357 F.3d 1340, 1350 (Fed. Cir. 2004).

In any event, the specification makes clear that the processing chamber is coextensive with the processing vessel. As we stated in Phillips, “the specification ‘is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term.’” 415 F.3d at 1315 (quoting Vitronics, 90 F.3d at 1582).

DMS argues that the specification emphasizes that the processing chamber is meant to include the entire interior of the processing vessel. In other words, even regions of the processing vessel that are not areas where wafer carriers are loaded, cleaned, and dried are described by the patent as part of the processing chamber. In contrast, Semitool argues that the specification limits the process chamber because the specification describes a bottom baffle that separates the area where wafers are cleaned and dried from the rest of the processing vessel. Such a partition, according to

Semitool, is quite relevant as the infringing device has a spray guard between the condenser and the area where the carriers are cleaned and dried.

The specification states that “[t]he processing chamber 47 is also most preferably provided with a false bottom or bottom baffle 85.” ’127 patent, col. 5, ll. 57-60. The specification describes the baffle as a “false bottom” rather than an actual bottom. As argued by DMS, this suggests that the area below the baffle is still part of the processing chamber. The specification also further describes this region below the bottom baffle by stating that “[t]he outer bottom wall piece 77 [of the processing vessel] has a processing chamber outflow opening or port formed therethrough adjacent to the outflow box.” ’127 patent, col. 7, ll. 26-30. Because this opening is specifically labeled as the “processing chamber outflow” rather than the “processing vessel outflow,” the specification further reinforces the conclusion that the area below the false bottom baffle is still part of the processing chamber. Therefore, contrary to Semitool’s contentions, the specification supports an interpretation of processing chamber as the entire interior of the processing vessel.

Furthermore, the specification treats the three terms processing bowl, processing chamber, and processing vessel synonymously thus further reinforcing the fact that processing chamber should be interpreted to encompass the entire interior of the processing vessel. First, the specification describes the processing vessel synonymously with the “bowl.” The specification introduces these two terms together by discussing “a processing bowl or vessel 21.” ’127 patent, col. 2, l. 66. Similarly, the specification describes a “sidewall of processing vessel or bowl 21.” ’127 patent, col. 3,

I. 20. From these passages, the specification makes it clear that the processing vessel and the processing bowl are one and the same structural element.

But the specification also uses “bowl” in association with the processing chamber. The specification describes that “[t]he processing chamber bowl and other conduits which supply gas or liquids are preferably made of stainless steel.” ’127 patent, col. 11, l. 44. This passage indicates that the processing chamber is associated with the “processing bowl” and in every other portion of the specification the processing bowl is used synonymously with the processing vessel. The specification makes no meaningful distinction between the vessel, the bowl, or the chamber and therefore the specification further reinforces that the entire interior of the processing vessel and the processing chamber should be interpreted to be coextensive.

Thus, for claims 1, 4, 9, 17, 19, 39, 55, 56, and 57 of the ’113 patent, the claims themselves state that the “processing vessel defin[es] a process chamber therewithin.” Therefore, we agree with DMS that the processing chamber encompasses the entire interior of the processing vessel. Similarly, for claims 28-33 of the ’127 patent, although the claims themselves leave room for argument, the specification makes clear that the processing chamber is coextensive with the entire interior of the processing vessel. Having interpreted processing chamber to be coextensive with the processing vessel, we now turn to the question of the alleged infringement of the asserted claims by DMS’s Tornado wafer carrier cleaner.

IV.

In order to infringe the asserted patent claims, the Tornado system must be “supplying drying gas to the process chamber.” The Claim Construction Order

construed this limitation to require that the “supplying gas is introduced into the process chamber” and furthermore “once inside the processing chamber, all that is required is that the ‘drying gas’ . . . is capable of readily absorbing evaporated cleaning liquid from the carriers and removing said vapor(s) from the process chamber as it is evacuated therefrom.” Thus, as described above, if the condenser is outside the processing chamber then the Tornado system may satisfy this claim limitation and it may infringe the patent as the condenser could arguably supply drying gas into the processing chamber. In contrast, if the condenser is inside the processing chamber, then the condenser cannot introduce gas into the processing chamber and it cannot evacuate drying gas from the processing chamber and therefore the Tornado does not infringe.

As we concluded above, the Claim Construction Order should be interpreted such that the processing chamber is coextensive with the interior of the processing vessel. Thus, whether the condenser is inside the processing chamber is equivalent to whether the condenser is inside the processing vessel and this question was answered at oral arguments by Semitool. Although it first disputed the issue, Semitool ultimately explicitly acknowledged that, in the Tornado, the condenser is inside the processing vessel. Therefore we conclude that the condenser must also be inside the processing chamber. As a result, the Tornado cannot supply drying gas to the processing chamber as required by the claims as construed by the district court in its Final Claim Construction Order and therefore it does not infringe the asserted claims of '113 or the '127 patent.

V.

Because it resides inside the processing chamber, the condenser in the Tornado cannot supply a drying gas as construed by the Final Claim Construction order issued by the district court. DMS is entitled to judgment as a matter of law that it does not infringe Semitool's patents and the district court properly denied Semitool's motion to enforce the permanent injunction and the settlement agreement. We affirm the district court's denial of Semitool's motions and affirm its granting of DMS's cross-motion for summary judgment of non-infringement.

No costs.

AFFIRMED