

**IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE**

CYTONOME/ST, LLC,)	
)	
Plaintiff/Counterclaim-Defendant,)	
)	
v.)	C.A. No. 19-301-RGA
)	
NANOCELLECT BIOMEDICAL, INC.,)	
)	
Defendant/Counterclaim-Plaintiff,)	
)	
)	
)	
)	

**DEFENDANT NANOCELLECT BIOMEDICAL, INC.'S
RESPONSIVE CLAIM CONSTRUCTION BRIEF**

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I. INTRODUCTION

The parties have taken divergent approaches to construing the disputed claim terms of the seven Asserted Patents¹. Defendant NanoCollect Biomedical, Inc.’s (“Defendant” or “NanoCollect”) offered constructions for the disputed claim terms reflect the terms’ meaning to a person of ordinary skill in the art (“POSA”) in view of the intrinsic evidence. Specifically, NanoCollect sought to accord the disputed claim terms with constructions based on the plain and ordinary meaning and the intrinsic evidence.

Cytonome repeatedly violates relevant legal tenets by proposing claim constructions that fail to consider the plain and ordinary meaning of claim terms as understood by the POSA in view of the teachings of the specifications. Cytonome’s proposed claim constructions are attempts to expand Cytonome’s patent rights in order to manufacture infringement arguments that are not supported by the claims themselves or the intrinsic record. NanoCollect, on the other hand, has been mindful of the “goal of claim construction”—that is, “to determine what an ordinary artisan would deem the invention claimed by the patent, taking the claims together with the rest of the specification.” *Astrazeneca AB v. Mutual Pharm. Co.*, 384 F.3d 1333, 1337 (Fed. Cir. 2004). Moreover, at bottom, the purpose of claim construction is to assist the jury in understanding the scope of the claims and technology at issue. *St. Clair Intellectual Prop. Consultants, Inc. v. Apple, Inc.*, No. CA 10-982-LPS, 2012 WL 3238252, at *9 (D. Del. Aug. 7, 2012) (“in light of the complex technology involved here, claim construction is appropriate to assist the jury in understanding the meaning of the patent claims it will be asked to consider.”).

¹ U.S. Patent No. 6,877,528 (“the ’528”); U.S. Patent No. 8,623,295 (“the ’295”), U.S. Patent No. 9,011,797 (“the ’797”); U.S. Patent No. 9,339,850 (“the ’850”); U.S. Patent No. 10,029,263 (“the ’263”); U.S. Patent No. 10,029,283 (“the ’283”); U.S. Patent No. 10,065,188 (“the ’188”) (the “Asserted Patents”) (D.I. 1-1, Exs. 1-7).

(continued...)

As Plaintiff first proposed, several claim terms in the Asserted Patents are means-plus-function terms. *See* Ex.² E at 1 (“a buffer . . . for absorbing the pressure pulse”). Plaintiff’s opening Markman states that certain claim terms equate to different words in the specification. For example, Plaintiff states that it “equates the term ‘buffer’ to a ‘reservoir’ that receives a pressure pulse. Brief at 5 (citing D.I. 39-3, September 22, 2004 response (a “reservoir or buffer for absorbing a pressure”)). The Federal Circuit’s “cases have emphasized that the essential inquiry is not merely the presence or absence of the word ‘means’ but whether the words of the claim are understood by persons of ordinary skill in the art to have a sufficiently definite meaning as the name for structure.” *Williamson v. Citrix Online, LLC*, 792 F.3d 1339, 1350 (Fed. Cir. 2015) (finding claim “merely replaces the term ‘means’ with ‘nonce’ word ‘module,’ thereby connoting a generic ‘black box’ for performing the recited computer-implemented functions.”).

To construe a disputed means-plus-function term, the Court must “attempt to construe the disputed claim term by identifying the ‘corresponding structure, material, or acts described in the specification’ to which the claim term will be limited.” *Robert Bosch, LLC v. Snap-On, Inc.*, 769 F.3d 1094, 1097 (Fed. Cir. 2014) (*quoting Welker Bearing Co. v. PHD, Inc.*, 550 F.3d 1090, 1097 (Fed. Cir. 2008)). The Federal Circuit determines disputed claim terms to be a means-plus-function term where it has no commonly understood meaning, was not generally viewed by one skilled in the art to connote a particular structure, and the specification “only describes the term’s function and interaction with other parts in the system.” *Media Rights Techs., Inc. v. Capital One Fin. Corp.*, 800 F.3d 1366, 1372-73 (Fed. Cir. 2015)

NanoCollect hereby submits this brief in support of their proposed claim construction of the disputed claim terms and in response to the proposed claim constructions and arguments set

² “Ex.” refers to documents attached to the Declaration of Ian R. Liston, served herewith.

forth in Cytonome’s Opening Claim Construction Brief (the “Brief”). D.I. 43. There remain 42 asserted claims in this litigation. NanoCollect believes that this is an excessive amount of claims for this case. Given the number of asserted claims at issue, and associated terms, NanoCollect cannot sufficiently address all of the potential claim disputes in this brief. In order to make this brief as productive as possible for the Court and the parties, NanoCollect focuses on those claim terms that, at this point in time, seem likely to be presented by Cytonome at trial. NanoCollect reserves its right to request the Court to construe additional terms as needed. Further, NanoCollect reserves the right to amend these proposed constructions, including to modify proposed terms and constructions and to add extrinsic evidence, or to offer a construction in lieu of “plain and ordinary meaning” based on Cytonome’s positions in this litigation, information subsequently produced or disclosed, or as may be occasioned by the occurrence of any other development in the litigation.

For the following reasons, NanoCollect respectfully requests that this Court adopt NanoCollect’s proposed constructions.

II. CLAIM TERMS IN DISPUTE

A. [1] “absorbing” and variants including “absorbs”

Defendant’s construction of “absorb” is “to receive without recoil or echo” and should be adopted because it is consistent with a POSA’s understanding of the term in light of the claims and specifications. “Absorb” is not defined in any of the asserted patents as having a special definition that differs from a POSA’s understanding of the term in light of the specification. A POSA would understand that in light of the specifications and claims of the Asserted Patents, “absorb” is “to receive without recoil or echo.” A POSA would further understand that “absorb” and the related term “dampen” are different levels of degree describing the dissipation or conversion of mechanical energy to something else, like heat or sound. Based on the

specifications of the Asserted Patents, a POSA would understand that absorption of a pressure pulse prevents disturbance to the flow of the non-selected particles in the stream of particles. *See also* the '850 patent (D.I. 1-1, Ex. 4) at 7:35-37 (“allowing the pressure pulse to be absorbed and *preventing disturbance* to the flow of the non-selected particles in the stream of particles.”) (emphasis added); *id.* at 9:48-51; the '263 patent (D.I. 1-1, Ex. 5) at 9:29-33. Such a disturbance is caused by a recoil or echo off a surface. In other words, a pressure pulse that is absorbed does not recoil or echo into the “flow of the non-selected particles in the stream of particles,” And, therefore, does not create a disturbance to the flow of non-selected particles. The dictionary meaning of “absorb” supports NanoCollect’s proposed construction. *See* Ex. D (the dictionary definition of “absorb” is “to receive without recoil or echo”).

The prosecution history of the '528 patent provides further evidence that absorbing a pressure pulse prevents it from recoiling or echoing. Cytonome distinguished the claims from the Dunaway reference by declaring that:

the pressure differential created by selectively opening one of the apertures in Dunaway is not absorbed by a reservoir or buffer, but rather transferred to the stream of fluid to change the flow path of the entire stream... *In contrast, the claimed second reservoir prevents the pressure variation or pulse from influencing the overall flow of fluid through a channel.*”

Ex. F at CYTLLC_001298. The USPTO allowed the application two months later as a result of this Response. *See id.* at CYTLLC_001279-282.

Thus, the term “absorb” should be construed such that it prevents disturbance to the flow of the non-selected particles in the stream of particles, which is consistent with NanoCollect’s proposed construction that upon being absorbed, a pressure pulse is received without recoil or echo, thereby preventing the pulse from reflecting off of the absorbant to cause a disturbance through a channel.

B. [6] “carrier fluid”

Defendant’s construction of “carrier fluid” to mean “fluid containing the particles moving through the system” should be adopted because it is consistent with a POSA’s understanding of

the term in light of the claims and specifications. This claim term is implicated by asserted claims 18 and 22 of the '528 patent. "Carrier fluid" is not defined in the specification of the '528 patent as having a special definition that differs from a POSA's understanding of the term. Accordingly, Plaintiff did not—and, indeed, cannot—point to a portion of the specification of the '528 patent where the inventors clearly set forth a definition for "carrier fluid." Thus, rather than pointing to disclosure of the '528 patent, Plaintiff attempts to import its lexicography from the specification of the later-filed '850 patent, which is a member of a different patent family, and despite its explicit limitation to the disclosure of the '850 patent. *See* '850 patent (D.I. 1-1, Ex. 4) at 5:56-58 ("The term 'carrier fluid' *as used herein* refers to a sheath of compatible liquid surrounding a particle for carrying one or more particles through a duct or channel.") (emphasis added). Plaintiff's reliance on a patent with a substantially different specification makes it readily apparent that Plaintiff did not otherwise define "carrier fluid" in the '528 patent.

Based on the disclosure and intrinsic record of the '528 patent, however, a POSA would understand that "carrier fluid" is a "fluid containing the particles moving through the system." *See* the '528 patent (D.I. 1-1, Ex. 1) at 4:34-36 ("a side channel in communication with a channel through which a stream of particles in a carrier fluid passes"); cl. 17 ("a channel in communication with a channel through which a stream of particles in a carrier fluid passes"); cl. 18 ("a channel for conveying a stream of particles in a carrier fluid"); cl. 22 ("a primary channel for conveying a stream of particles in a carrier fluid").

By contrast, Plaintiff's proposed construction of "a sheath of compatible liquid surrounding a particle for carrying one or more particles through a duct or channel" lacks support in the specification, and seeks to re-write and improperly narrow the scope of this claim term in the '528 patent. Plaintiff adds multiple limitations to the plain and ordinary meaning of "carrier fluid" as described in the specification. First, Plaintiff argues that the fluid must be a "sheath." The term sheath does not appear in the '528 patent and would fail to clarify the term "carrier fluid" to a jury. Worse, a sheath would be understood by a POSA as a specific type of carrier fluid. Plaintiff's shift in claim scope is apparent by its use of the term "compatible," *i.e.*

Plaintiffs argue that the Court should restrict “carrier fluid” to a “sheath” that is “compatible” with “particles.” This is a transparent attempt to narrow the claim term to avoid prior art encompassing the term “carrier fluid” and should be rejected. Second, Plaintiff attempts to limit the term “carrier fluid” to only define fluid in specific locations, *i.e.* in a “duct or channel.” The specification, however, does not provide such a limitation; the POSA would not understand the same fluid that flows through and between several components of the claimed device to be named differently based on its location in the system. Third, claim 17 makes clear that the carrier fluid must be capable of “form[ing] a meniscus” in the side channel. Because a POSA would not understand the meniscus or the side channel to comprise a “sheath surrounding a particle,” Plaintiff’s proposal should be rejected.

Accordingly, Defendant’s construction should be adopted because “carrier fluid” is a technical term in the ’528 patent, and Defendant’s construction reflects the scope of the claim term as understood by a POSA in light of the specification.

C. [7] “pressure pulse”

Defendant’s construction of “pressure pulse” to mean “a unidirectional flow to the [microchannel/supply duct]” should be adopted because it is consistent with a POSA’s understanding of the term in light of the claims and specifications. Plaintiff argues that, if construed, the term should be understood as a “transient increase in pressure.” That characterization, however, is incomplete. The term “pressure pulse” as used in the asserted patents is a technical term describing how the actuator works to “selectively deflect a particle,” and describing what is “absorb[ed].” ’528 patent (D.I. 1-1, Ex. 1) at cl. 18. As claimed in the ’528 patent, the pressure pulse only moves in one direction: from the actuator to the microchannel/supply duct/stream of particles and then to the second reservoir/buffer. This is the only understanding supported by the ’528 patent. It is also consistent with the disclosure of the ’263 patent, which shares the disclosure of Figs. 1-4 with the ’528 patent, and makes the direction of the pressure pulse explicit in “deliver[ing] a transient pressure pulse *in a direction substantially perpendicular to a flow direction of the fluidic stream of particles.*” See the ’263

patent (D.I. 1-1, Ex. 5) at 14:4-9. *See also* the '528 patent (D.I. 1-1, Ex. 1) at 12:46-50 (“the flow through the duct is deflected causing the selected particle of interest 178b located between the first side passage 174a and the second side passage 174b to be shifted *perpendicular to its flow direction* in the normal state.”) (emphasis added). As claimed, the pressure pulse described in the Asserted Patents is unidirectional pressure initiated at a particular location within the device and that moves in a single direction across the flow of the stream. This is consistent with NanoCollect’s proposed construction, “a unidirectional flow to the [microchannel/supply duct].”

In contrast, Cytonome’s proposed constructions seek to broaden the term beyond what can be supported by the claim language and the intrinsic record. Cytonome’s proposed constructions of “pressure pulse” as *any* “transient increases in pressure” or “momentary flow disturbance” encompass all possible changes in pressure or types of flow disturbance. For example, Plaintiff’s proposed construction of “a transient increase in pressure” would cover all transient increases, including even those transient increases that have no effect on the particles, much less deflect a particle. Such a construction is contrary to the meaning of the term “pressure pulse” as used in the Asserted Patents.

D. [8] “from the stream of particles”

Defendant’s construction of “from the stream of particles” is “from the continuous moving procession of fluid and particles” and should be adopted because it is consistent with a POSA’s understanding of the phrase in light of the claims and specifications. The claim phrase is implicated by the asserted claims 18 and 22 of the '528 patent and 1 and 12 of the '188 patent. This claim phrase is not defined in the '528 or the '188 patents as having a special definition that differs from a POSA’s understanding of the term in light of the specifications. Accordingly, a POSA would understand “from the stream of particles” as from the continuous moving procession of the fluid carrying the particles. The ordinary meaning of “stream” supports NanoCollect’s proposed construction. *See* Ex. B at NANO_00009720 (the dictionary definition of “stream” is “a continuous moving procession”). In the context of the specifications of the '528

See the '528 patent (D.I. 1-1, Ex. 1) at figs. 16, 17C; the '188 patent (D.I. 1-1, Ex. 7) at figs. 3, 5A, 5B, 5C, 5D (figures depicting continuous moving procession of the particles). Further, in the context of the specifications of the '528 and the '188 patents, a POSA would understand that the particles must be encompassed in a fluid because the particles cannot be introduced into or flow through the claimed devices without being encompassed in a fluid. *See* the '528 patent (D.I. 1-1, Ex. 1) at 11:53-57 (the stream of particles is introduced into the first supply duct); the '188 patent, fig 5A (figure depicting a stream of suspended particles).

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separated from the *stream of fluid* flowing through the fluid amplifier.” See Ex. F at CYTLLC_001297-298. Thus, Plaintiff’s own understanding of “from the stream of particles” is that the phrase “stream of particles” must necessarily encompass both the particles and the fluid.

Furthermore, again in the context of the specifications and claims of the ’528 and the ’188 patents, a POSA would understand that deflecting a particle in the stream of particles “from the stream of particles” is deflecting a particle from the continuous moving procession of the particles in a fluid. See the ’528 patent (D.I. 1-1, Ex. 1) at cls. 18, 22, figs. 17A, 17B, 17C; the ’188 patent (D.I. 1-1, Ex. 7) at cls. 1, 12, figs. 5A, 5B, 5C, 5D. Plaintiff even said so much during prosecution arguing that, unlike the claimed invention, “[t]here is no teaching or suggestion in Dunaway that *a selected particle can be separated from the stream of fluid* flowing through the fluid amplifier.” See Ex. F at CYTLLC_001298 (emphasis added). The USPTO allowed the ’586 application as a result of this Response. See *id.* at CYTLLC_001279-282. Thus, “from the stream of particles” is “from the continuous moving procession of fluid and particles,” consistent with the construction proposed by Defendant.

Plaintiff argues that Defendant’s proposed construction complicates the claim language by replacing “stream” with “continuous moving procession.” On the contrary, “continuous moving procession” is how a POSA would understand the plain and ordinary meaning of “stream” in light of the specification. Moreover, it provides the jury with a straightforward description of the term “stream” as used in the specification. Defendant’s construction, thus, assists the jury in understanding the language of this claim phrase. Plaintiff further argues that Defendant has expanded the definition of “stream of particles” to encompass both the particles and the carrier fluid. Plaintiff’s argument is incorrect. As disclosed in the specifications, a “stream of particles” would *necessarily* be suspended in a fluid in order to be introduced into or flow through the claimed devices; the devices would not work as claimed if the particles were not suspended in a fluid. As explained above, Defendant’s construction finds support in the specifications of the ’528 and the ’188 patents. Further, in the context of the broader phrase “deflect a particle ... from the stream of particles,” per Defendant’s proposed construction, a

particle will be deflected from the continuous moving procession of fluid and particles, which is in line with the specifications of the '528 and the '188 patents. *See* the '528 patent (D.I. 1-1, Ex. 1) at fig 17C; the '188 patent (D.I. 1-1, Ex. 7) at fig. 5A.

E. [10] “buffer” ('528 Patent, claims 18, 22, and 24)

i. The term “buffer” has no plain and ordinary meaning as used.

The term “buffer” is indefinite because the term is not used, let alone defined, anywhere in the specification of the '528 patent and the POSA would not understand its metes and bounds.

There is no commonly understood structure associated with the term “buffer,” it does not have a plain and ordinary meaning as used, and was not commonly used in the field of microfluidics to describe components that receive pressure pulses at the time of the invention. Cytonome, that patent drafter, proposes the construction “a physical structure that contains fluid and receives a pressure pulse.” Brief at 5. This definition, however, could encompass any number of structures described in the '528 patent, including side channel 174b attached to bubble valve 10b in Figure 16. Side channel 174b is a physical structure that contains a fluid and receives a pressure pulse. There is no way for a POSA to have notice of what the term “buffer” means if the patent owner itself affirmatively construes “buffer” so broad as to cover multiple disclosed, and otherwise claimed, components. Cytonome’s definition of “buffer” is also conspicuously similar to its initial construction of a “reservoir,” which they defined as a “a physical structure that contains fluid,” D.I. 37 at 2, wherein claim 17 claims a “reservoir for absorbing a pressure pulse.”

The prosecution history of the '528 patent provides additional persuasive evidence that the term “buffer” has nowhere been described in the specification of the '528 patent. During examination of Application No. 14/689,508 (which is a continuation of the '528 patent and shares the '528 patent’s specification), the Examiner rejected claim 10 due to its unsupported use of the term “buffer reservoir.” Specifically, the Examiner states “Claim 10 recites the

microfluidic device comprising a buffer reservoir; however, after reviewing the specification, the Examiner contends that the specification does not provide a description for a buffer reservoir. In fact, the only instance in which the word “buffer” is recited is in the text of claim 10.” Ex. G at NANO_00009744. Rather than reply to the Examiner’s rejection, either by arguing that the POSA would understand the term by its plain and ordinary meaning or pointing to specific structure disclosed in the specification defining the buffer’s limitations, Cytonome acquiesced and amended the claim. *Id.* at NANO_00009734-735. In each subsequent application, Cytonome replaced the term “buffer” with other terms and/or disclosed new structure. The specification at issue in Application 14/689,508 is the same as the specification of the ’528 patent. A POSA would not understand the metes and bounds of the term “buffer” as the ’528 specification provides no sufficiently definite structure.

ii. Alternatively, the term “buffer” is a nonce term invoking a means-plus-function construction

Claim 18 of the ’528 patent recites “a buffer for absorbing the pressure pulse.” As described above, the term “buffer” does not have a plain and ordinary meaning as used in the specification, is not used or defined in the specification, and does not sufficiently define a structure. As such, the term “buffer” acts as a nonce term. *See Williamson v. Citrix Online, LLC*, 792 F.3d 1339, 1350 (Fed. Cir. 2015) (finding claim “merely replaces the term ‘means’ with ‘nonce’ word ‘module,’ thereby connoting a generic ‘black box’ for performing the recited . . . functions.”). The claim, “buffer,” is a generic blackbox and is only defined by what it *does*, *i.e.*, its function (“absorbing the pressure pulse”) rather than what it structurally is. Thus, the presumption that the claim is not a means-plus-function claim because it does not use the term “means” is overcome. *Id.* at 1348 (“our cases have emphasized that the essential inquiry is not merely the presence or absence of the word ‘means’ but whether the words of the claim are

understood by persons of ordinary skill in the art to have a sufficiently definite meaning as the name for structure.”).

As discussed above, the ’528 specification has no disclosure supporting the term “buffer.” Plaintiff argues that dependent claim 24 proves that “buffer” is a structure by reciting particular structural feature—i.e., “a flexible membrane” that could comprise a buffer. Brief at 6. Plaintiff does not explain how the independent claim without this more structural limitation would be understood by a POSA as defining a particular structure. Accordingly, the specification discloses no corresponding structure for this element.

Cytonome contends that as understood by the ’528 specification, the term “buffer” is understood to the POSA as “a physical structure that contains fluid and receives a pressure pulse.” Cytonome’s proposed construction is erroneous for several reasons. Despite arguing that “the buffer terms are not means-plus-function terms,” Cytonome’s own construction of the term “buffer” invokes § 112, para 6. Cytonome construes a buffer to be “*a physical structure* that contains fluid and receives a pressure pulse.” Brief at 5 (emphasis added). A “physical structure” is literally a nonce term describing a physical structure as it fails to sufficiently define or specify any *particular* structure. Cytonome merely defines this physical structure by its alleged function (to contain fluid and receive a pressure pulse) without identifying corresponding structure.

Plaintiff argues that such a structure is disclosed and points to “valve, side channels, and reservoir in Figure 16” as structures that “absorb the transient pressure variations.” Brief at 7. Plaintiff further points to “fluid-filled ‘reservoir’” 70 of Figure 17A of the ’528 patent. Brief at 5. Claim 26 makes clear that a “buffer” can “compromise[] air trapped in a sealed reservoir.” Accordingly, “air trapped in a sealed reservoir” is narrower than “buffer.” As discussed, Plaintiff argues that a buffer’s corresponding structure is “the valve, side channels, and reservoir”—other

claimed elements in the '528 patent. However, the POSA would not understand that these structures alone are sufficient to “absorb[] the pressure pulse.” Rather, the structures in the specification that would allow “buffer” to be understood by the POSA to have a sufficiently definite structure would at least include 70 (described as 70b), 10b, 174b, and 175 as disclosed by the specification and should thus alternatively be construed to require these structures.

F. [11] “buffer” ('850 Patent, claims 1 and 11)

i. The term “buffer” has no plain and ordinary meaning as used.

The arguments presented above for the term “buffer” in the '528 patent also apply to the term “buffer” as used in the continuation-in-part issued as the '850 patent. The limitations of the specification and claims of the '528 patent in failing to describe the structure of “buffer” and how it is configured to receive a pressure pulse were not addressed in the later-filed '850 patent.

ii. Alternatively, the term “buffer” is a nonce term invoking a means-plus-function construction

The term “buffer” in the claim 1 of the '850 patent is described using functional language, not structure: “a buffer configured to fluidically co-operate with the actuator for absorbing or dampening the pressure pulse.” The words “configured to” in claim 1 of the '850 patent support invocation of § 112, para 6 for “buffer” because the claim term “buffer” is only defined in the claim by its function, which is to “fluidically co-operate with the actuator for absorbing or dampening the pressure pulse.” As such, the term “buffer” acts as a nonce term. As discussed above, the '850 specification has no disclosure supporting the term “buffer.” Plaintiff argues that dependent claim 11 proves that “buffer” is a structure by reciting particular structural feature—i.e., “a non-flow through chamber in fluid communication with the duct”. Brief at 7. Under this understanding a “buffer” requires “a non-flow through chamber.” Plaintiff does not explain how

the independent claim without additional structural limitation would be understood by a POSA as defining a particular structure.

Further, Plaintiff contends that as understood by the '850 specification, the term “buffer” is readily understandable to the POSA as “a physical structure that contains fluid and receives a pressure pulse.” As discussed above, Cytonome’s proposed construction similarly evokes means-plus-function. The structure in the specification that would allow “buffer” to be understood by the POSA to have a sufficiently definite structure includes 70a , 100a, 24, and 25 as disclosed by the specification and should thus be construed to require these structures. *See* the '850 patent (D.I. 1-1, Ex. 4) at 6:33-36 (“a buffer chamber 70a in the second bubble valve 100a for absorbing pressure transients”); 7:31-37 (“Basically, the reservoir 70a of the second bubble valve 100a is a buffer chamber having a resilient wall or containing a compressible fluid, such as a gas.

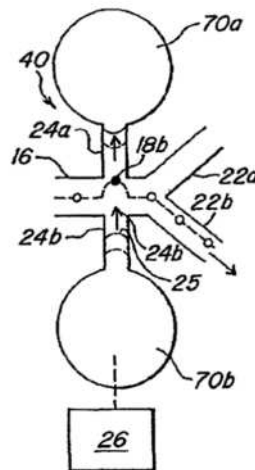


Fig. 2

The resilient properties allow the flow of liquid from the measurement duct into the second side passage 24a, allowing the pressure pulse to be absorbed and preventing disturbance to the flow of the non-selected particles in the stream of particles.”); 10:2-4 (“The carrier fluid in the side

passage 24a forms a meniscus 25 at the interface between the side passage and the chamber.”).

The structure Plaintiff points to as supporting “buffer” includes at least second bubble valve 100a of Figure 1, 100b in Figure 6, and valve 100 in Figure 7 of the ’850 patent. Brief at 7.

G. [12] “selectively applying”

The claim term “selectively applying” as recited in claim 18 of the ’528 patent and claim 1 of the ’850 patent in respect of “an actuator for selectively applying a pressure pulse” is indefinite under 35 U.S.C. § 112, ¶ 2. For example, it is unclear how the “actuator” can “selectively” apply a pressure pulse as opposed to simply “applying a pressure pulse.” Indeed, this claim term is not commonly used in the field of microfluidics in the context of an “actuator” applying a pressure pulse to deflect a particle in the stream of particles. Further, the specifications and claims of the ’528 patent and the ’850 patent do not define “selectively applying” or describe how an “actuator” is configured to “selectively” apply a pressure pulse. In fact, the specification makes clear that the actuator is a standard stand-alone component and is not specially adapted to “selectively apply” a pressure pulse. *See* the ’528 patent (D.I. 1-1, Ex. 1) at 7:23-25 (“[t]he actuator 50 may comprise *any suitable device* for deflecting the wall, such as an electromagnetic actuator or a piezoelectric element.”) (emphasis added).

Plaintiff refers to a single example embodiment in the specification of the ’528 patent wherein the embodiment is described to comprise “an actuator for deflecting the meniscus to create a pressure pulse to selectively deflect a particle having the predetermined characteristic.” Brief at 8, citing to the ’528 patent at 4:35-41. Here, the language “to selectively deflect a particle having the predetermined characteristic” only conveys the purpose of “selectively applying” a pressure pulse and does not sufficiently describe the structure of an actuator to “selectively apply” a pressure pulse. Plaintiff’s emphasis on the selection being based on the “characteristics of the

particle to be deflected,” (*id.*) is limited to addressing the parameter of selective application, which does nothing to explain how a standard off the shelf actuator can “selectively apply” a pressure pulse. Furthermore, the specifications and claims of the ’528 patent and the ’850 patent do not identify any embodiment of an actuator that selects, among others, when, where, and how much, pressure pulse to apply to deflect a particle in the stream of particles. Typically, a standard off the shelf actuator does not inherently select when, where, and how much, pressure pulse to apply. A standard actuator would require additional structures or qualities to select when, where, and how much, pressure pulse to apply. No information regarding the structural features of an actuator to “selectively apply” a pressure pulse is recited in the specifications of the ’528 patent and the ’850 patent. Accordingly, a POSA cannot determine the metes and bounds of claims reciting “selectively applying” given the term does not have a plain and ordinary meaning as used and is not defined or described in the claims and specifications. The term an actuator for “selectively applying” is, therefore, indefinite.

H. [13] “an actuator connected to the first side channel”

The phrase “an actuator connected to the first side channel” in claim 22 of the ’528 patent is indefinite under 35 U.S.C. § 112, ¶ 2 because the specifications and claims of the ’528 patent do not identify any actuator connected to the first side channel. Although the terms of the claim phrase individually are commonly used in the field of microfluidics, there is no commonly understood structure associated with the phrase “an actuator connected to the first side channel,” and the claim phrase does not have a plain and ordinary meaning as used.

Further, the specification and claims of the ’528 patent do not define “an actuator connected to the first side channel” or describe how an “actuator” is “connected to the first side channel.” In fact, recitation of the term actuator in the specification indicates that the actuator activates a gas-filled bubble valve or a gas-filled reservoir, *not* the side channel. *See, e.g.* the ’528 patent (D.I. 1-1, Ex. 1) at 12:23-27 (“the actuator activates the first bubble valve 10a to

cause pressure variations in the reservoir 70 of the first bubble valve. The activation of the first bubble valve causes a transient pressure variation in the first side passage 174a.”). Further, the specification of the ’528 patent discloses the actuator as “external” and *not* connected to the first side channel. *Id.* at 12:3-6 (“An external actuator 176 is also provided for actuating the bubble valves 10a, 10b, which momentarily causes a flow disturbance in the duct to deflect the flow therein when activated by the actuator 176.”); Fig.16 (showing external actuator 176 connected to the reservoir 70). As such, the specification of the ’528 patent does not identify any structure of “an actuator connected to the first side channel.”

Additionally, because each embodiment described in the specification of the ’528 patent indicates that the actuator activates a gas-filled bubble valve or a gas-filled reservoir, it would be unclear to the POSA how the actuator can activate a gas-filled bubble valve or a gas-filled reservoir if it is physically connected to the the side channel instead of the bubble valve.

Accordingly, a POSA reviewing the ’528 patent’s specification would not reasonably understand the metes and bounds of “an actuator connected to the first side channel”. Plaintiff cites no evidence and only offers conclusory statements to the contrary. Thus, the claim phrase “an actuator connected to the first side channel” is indefinite.

I. [19] “a first reservoir operatively associated with the flow channel and adapted for dampening or absorbing a pressure pulse propagated across the flow channel”

The claim phrase “a first reservoir operatively associated with the flow channel and adapted for dampening or absorbing a pressure pulse propagated across the flow channel” read by a POSA in light of the ’295 patent’s specification is indefinite as it fails to disclose a sufficiently definite structure. Plaintiff argues that Dependent claims 9 and 17 prove that “reservoir” is a structure by reciting particular structural feature—i.e., “a resilient wall” and “a deflectable flexible membrane”—that *can* be included in the reservoirs.” Brief at 10 (emphasis added). Plaintiff does not explain how the independent claims without these more structural

limitations would be understood by a POSA as defining a particular structure. Accordingly, the specification discloses no corresponding structure for this element.

Alternatively, “a first reservoir operatively associated with the flow channel and adapted for dampening or absorbing a pressure pulse propagated across the flow channel” should be construed as a means-plus-function claim as the term “reservoir” is a nonce term as used in the specification and it does not have a plain and ordinary meaning as used in the specification, is not defined in the specification, and does not sufficiently define a structure. The word “buffer/reservoir” simply recites a function rather than any definite structure. The function of the “reservoir” is “dampening or absorbing a pressure pulse propagated across the flow channel.”

Plaintiff points to the two structural components labeled 70 in Figures 16-17C. Brief at 9. A POSA would not correlate structural components labeled 70 with “dampening or absorbing a pressure pulse propagated across the flow channel.” *See* the ’295 patent (D.I. 1-1, Ex. 2) at 12:12-15 (the “actuator activates the first bubble valve 10a to cause pressure variations in the reservoir 70 of the first bubble valve. The activation of the first bubble valves causes a transient pressure variation in the first side passage 174a.”). However, this recitation of structure is incomplete as the POSA would not understand that 70 alone to be sufficient to “dampen[] or absorb[] a pressure pulse propagated across the flow channel.” As Plaintiff’s support shows at least structure 10 would also be required in order for the term to have a sufficiently definite structure to perform the stated function.

J. [20] “dampening or absorbing the pressure pulse using a first reservoir in fluid communication with the microfluidic flow channel”

The claim term incorporates several terms that the parties dispute. Rather than restate those arguments here, Defendant incorporates by reference its proposed definitions for the variants of “dampening,” “absorbing,” and “pressure pulse.”

K. [22] “dampen” and variants “dampening”

Defendant's construction of "dampen" to mean "to meaningfully dissipate" should be adopted because it is consistent with a POSA's understanding of the term in light of the claims and specifications of the Asserted Patents. "Dampen" is not defined in any of the Asserted Patents as having a special definition that differs from a POSA's understanding of the term. A POSA, however, would understand that in light of the specifications and claims of the Asserted Patents, "dampen" and the related term "absorb" are different levels of degree describing the dissipation or conversion of mechanical energy to something else, like heat or sound. Based on the specifications and claims of the Asserted Patents, a POSA would understand that a pressure pulse that is absorbed does not recoil or echo into the "flow of the non-selected particles in the stream of particles," and, therefore, does not create a disturbance to the flow of non-selected particles. *See* Defendant's construction of "absorb," *supra*. Further, a POSA would understand that a pressure pulse is similarly dampened to "allow other particles in the stream of particles to normally flow into the first outlet." *See* the '850 patent (D.I. 1-1, Ex. 4) at cl.1. In other words, a POSA would understand that for the claimed inventions to work as described in the Asserted Patents, the pressure pulse must be dampened to the extent the dampening of the pressure pulse prevents disturbance to the flow of the non-selected particles in the stream of particles. Thus, the term "dampen" should be construed such that it prevents disturbance to the flow of the non-selected particles in the stream of particles. Necessarily, such a construction must exclude the incidental dampening inherent in all microfluidic devices by requiring a substantial amount of dissipation that would prevent disturbance to the flow of the non-selected particles in the stream of particles and allow other particles in the stream of particles to normally flow into the first outlet. For example, the pressure pulse can be dissipated by contacting the walls of every channel it passes through in a microfluidic system as well as by the viscosity of the fluid itself. Accordingly, NanoCollect's proposed construction of "dampen" to mean "to meaningfully dissipate"—such that upon being meaningfully dissipated, a pressure pulse would not reflect off of the absorbant and cause a disturbance through a channel—is consistent with a POSA's understanding of the term in light of the specifications and claims of the Asserted Patents.

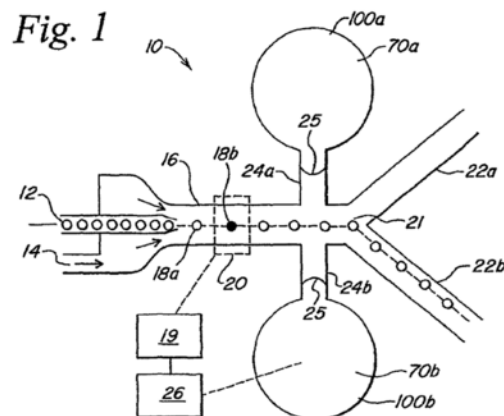
Alternatively, the term “dampen” is indefinite under 35 U.S.C. § 112, ¶ 2. For instance, the claims and specifications of the Asserted Patents do not provide the objective boundary of the amount of dissipation of the pressure pulse that would constitute “dampening,” leaving it to the POSA’s subjective judgment of the extent of pressure pulse that should be dissipated to satisfy the limitations reciting “dampen.” *See, e.g., Interval Licensing LLC v. AOL, Inc.*, 766 F.3d 1364, 1371-72 (Fed. Cir. 2014) (observing that although there is no absolute or mathematical precision required, “[t]he claims, when read in light of the specification and the prosecution history, must provide objective boundaries for those of skill in the art”); *Intellectual Ventures I LLC v. T-Mobile USA, Inc.*, 902 F.3d 1372, 1381 (Fed. Cir. 2018) (“While a claim employing a “term[] of degree” may be definite “where it provide[s] enough certainty to one of skill in the art when read in the context of the invention,” a term of degree that is “purely subjective” and depends “on the unpredictable vagaries of any one person’s opinion” is indefinite.”) (internal citations omitted); *Berkheimer v. HP Inc.*, 881 F.3d 1360, 1363 (Fed. Cir. 2018) (affirming District Court’s indefiniteness determination for the term “minimal redundancy” based on the term’s highly subjective meaning). Further, the specifications of the Asserted Patents do not identify examples of devices that do and do not meet the limitation “dampening.” Because the intrinsic record provides no guidance on the scope of “dampen,” the term is indefinite.

L. [26] “otherwise sealed”

Defendant’s construction of “otherwise sealed” to mean “otherwise closed off from fluid connection” should be adopted because it is consistent with a POSA’s understanding of the term in light of the claims and specifications of the Asserted Patents. “Otherwise sealed” is not defined in the specification of the ’283 patent as having a special definition that differs from a POSA’s understanding of the term. Plaintiff did not—and, indeed, cannot—point to a portion of the specification of the ’283 patent where the inventors clearly set forth a definition for “otherwise sealed.” Nevertheless, a POSA would understand the phrase, “the first chamber in fluid communication with the duct via a first side opening and otherwise sealed” to mean that the first

chamber includes one, and only one, side opening, which opening is in fluid communication with the duct. That is, the first chamber is “otherwise closed off from fluid connection,” consistent with the construction proposed by Defendant.

While Defendant agrees that “otherwise sealed” encompasses “not open to an exterior environment,” Plaintiff’s definition is overly narrow and unsupported by the specification. A POSA would understand the term “otherwise sealed” as sealed except for the aforementioned first side opening. In other words, the first chamber in claim 1 is completely sealed off from fluid connection with a single exception: the duct via a first side opening. The first chamber is, therefore, also *unsealed* at the first side opening. Claim 1 and claim 6 refer to components (a first chamber and second chamber, respectively) that are “otherwise sealed.” Claim 1 specifically states that “a first chamber in fluid communication with the duct *via a first side opening and otherwise sealed.*” A “first side opening” is not disclosed in the specification, however, upon reviewing the claims and specification, a POSA would understand the “first side opening” to be the opening connecting the “first chamber” to the “first side passage **24b**.” See ’283 patent (D.I. 1-1, Ex. 6) at 6:34-39.



For example, the “first side passage **24b** is hydraulically connected to a compression chamber **70b** in the first bubble valve **100b**, so that if the pressure in this chamber is increased, the flow in the measurement duct near the side passage is displaced inwards, substantially perpendicular to the normal flow in the duct.” *Id.* Because the first chamber is in fluid communication with the

duct, and the duct is “formed in a substrate” of the particle sorting chip, the language of the claim itself makes clear that the only claimed opening, the first side opening, connects the chamber to an *internal* component: the duct. Plaintiff even admits that these components are open to the internal environments. Brief at 13 (“The phrase ‘otherwise sealed’ means that, despite having an ‘opening’ *internal* to the system...” (emphasis added). Similarly, Claim 6 requires a particle sorting chip wherein the “second chamber is otherwise sealed.” Claim 6 depends from claim 5, which recites “a second chamber in fluid communication with the duct via a second side opening.” A “second chamber” is not disclosed by the specification, however, upon reviewing the claims and specification a POSA would understand the “second chamber” to be “the reservoir **70a** of the second bubble valve.” See ’283 patent (D.I. 1-1, Ex. 6) at 7:39-42. “The second side passage 24a and the second bubble valve 100a absorb the transient pressure variations in the measurement duct 16 induced via the actuator 26. Basically, the reservoir **70a** of the second bubble valve **100a** is a buffer chamber having a resilient wall or containing a compressible fluid, such as a gas.” *Id.* at 7:37-42. Accordingly, both the literal language of the claim and the corresponding description in the specification make clear that the “second chamber” is open to the internal environment. The use of the term “otherwise” in both claim 1 and claim 6 makes clear that the first side opening and second side opening are exceptions to the first chamber and second chamber being completely “sealed.” Thus, the first chamber and second chamber are unsealed at the first side opening and second side opening, respectively. In both instances, the recited unsealed portion is open to an *internal* environment, not an external environment. Accordingly, “otherwise sealed” would necessarily include being sealed from both the internal environment and the external environment. The term “otherwise” modifies the term “sealed,” not the term “opening.” Plaintiff’s contention that “otherwise sealed” would only limit openings to the external environment, but not the internal environment, makes little sense unless such an exception was explicitly recited in the claim. Had Plaintiff intended to *exclude* this internal opening from consideration, the term “otherwise” would be unnecessary and the claims would have been drafted to claim “sealed,” not “*otherwise* sealed” chambers. Alternatively,

Plaintiff was well aware of how to draft the claim it now proposes. See '797 patent (D.I. 1-1, Ex. 3) at Claim 5 (“wherein the first reservoir is otherwise sealed from an exterior environment.”).

Plaintiff argues that Defendant’s definition of “otherwise sealed” is “too limiting because it would preclude fluid connections between the chambers and other *internal* components”. Plaintiff disregards the plain language of the claim and instead selectively cites parts of the prosecution history of a different patent, the '797 patent, in an attempt to support its incomplete construction of a claim term in the '283 patent. This is contrary to the well-settled process for construing claims, which begins with the claims themselves. See *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.”) Here, the meaning of the term “otherwise” is commonly understood. The fact that Plaintiff resorts to the prosecution history of an entirely different patent with a *different specification* renders the prosecution history of the '797 patent even that much less helpful when construing a claim term that appears in the '283 patent. What’s more, Plaintiff neglects to mention that Plaintiff explicitly defined the “external environment” during prosecution of the '797 patent and only added the limitation “otherwise sealed from an external environment” because the USPTO rejected a claim reciting a “sealed first reservoir in fluid communication with the flow channel” as indefinite. The claims of the '283 patent provide sufficient context on their own to define the word “otherwise” and construe the meaning the claim term “otherwise sealed.” The first chamber and the second chamber each recite a single side opening and are “otherwise sealed.” It is unnecessary and unhelpful to try to import limitations from the prosecution history of a different patent when construing the word “otherwise.” A sealed chamber with a single recited opening, therefore, has *only* that single recited opening and is “otherwise closed off from fluid connection.”

M. [32] “from the fluidic stream of particles”

Defendant's construction of "from the fluidic stream of particles" is "from the stream of fluid carrying the particles" and should be adopted because it is consistent with a POSA's understanding of the term in light of the claims and specifications. The claim phrase is implicated by the asserted claim 1 of the '263 patent. This claim phrase is not defined in the '263 patent as having a special definition that differs from a POSA's understanding of the term in light of the specifications. Accordingly, a POSA would understand "from the fluidic stream of particles" as from the stream of fluid carrying the particles. In the context of the specification of the '263 patent, a POSA would understand that the particles are moving as a stream in a continuous procession. *See* the '263 patent (D.I. 1-1, Ex. 5) at figs. 1, 2, 3, 4, 5, 6 (figures depicting continuous moving procession of the particles). Further, in the context of the specification and claims of the '263 patent, a POSA would understand that the particles must be encompassed in a fluid because the particles cannot be introduced into and flow through the claimed devices without being encompassed in a fluid. *See id.* at cl. 1, 3:42-43, 3:44-45 (the stream of particles is introduced into the first supply duct), 4:9-11 ("conducting a stream of fluid into the duct inlet with a stream of particles suspended therein"), 6:64-66 ("conducting a stream of liquid into the duct inlet with a stream of particles suspended therein"), 7:61-63, 7:64-66 ("a stream of particles is introduced into the flow of carrier liquid"), 12:53-55 ("an input stream of particles in suspension ... from a particle input chamber ... is split among ... single sorting channels"). This support from the specification of the '263 patent clearly refers to a "stream of particles" encompassed in a fluid. Further, during the prosecution of the '528 patent, while arguing that the Dunaway reference "fails to teach or suggest using a pressure pulse to deflect a particle in a stream of particles flowing through a channel *from* the stream of particles," Plaintiff submitted to the patent examiner that "the Dunaway reference only teaches changing the path of an entire stream of fluid between two outlets"; "Dunaway reference ... redirects the flow path of an entire stream of fluid"; "the pressure differential ... in Dunaway is ... transferred *to the stream of fluid* to change the flow path of the entire stream"; and that "[t]here is no teaching or suggestion in Dunaway that a selected particle can be separated from the *stream of fluid* flowing

through the fluid amplifier.” *See* Ex. F at CYTLLC_001298. Thus, Plaintiff’s own understanding of a “stream of particles” is that a “stream of particles” includes the “stream of fluid.”

Furthermore, given that claim 1 of the ’263 patent recites a “fluidic stream of particles,” and given that particles are not made out of fluid, a POSA would understand that a “fluidic stream of particles” must necessarily encompass both the particles and the stream of fluid carrying the particles. Thus, “from the fluidic stream of particles” is “from the stream of fluid carrying the particles,” consistent with the construction proposed by Defendant.

Plaintiff does not object to Defendant’s proposed construction for “from the fluidic stream of particles,” but only argues that Defendant’s proposed construction does nothing to further clarify the term. Defendant disagrees. Asking jurors to apply the “plain and ordinary meaning” of this technical term is at best unhelpful and at worst an attempt by Plaintiff to avoid any defined boundary for its claimed inventions. There can be no doubt that Defendant’s proposed construction simplifies the language of this claim phrase for the benefit of the jury.

N. [37] “microsorter having a switching region and a microfluidic channel formed in the microfluidic chip fluidically coupled to a sample input a keep output, and a waste output, and the switching region”

The term “microsorter having a switching region and a microfluidic channel formed in the microfluidic chip fluidically coupled to a sample input a keep output, and a waste output, and the switching region” is indefinite because a POSA would not understand the metes and bounds of claim 1 in light of the specification. For example, a POSA would not understand how the switching region could be connected to the switching region. It would also be unclear to a POSA whether the microfluidic channel is part of the microsorter.

O. [41e] “a first reservoir . . . adapted for dampening or absorbing a pressure pulse”

Claim phrase [41e] of the ’295 patent is comprised in claim phrase [19] of ’295 patent. Accordingly, the arguments above for the claim phrase “a first reservoir operatively associated with the flow channel and adapted for dampening or absorbing a pressure pulse propagated across the flow channel” in claim 1 of the ’295 patent apply here.

P. [41f] “a second reservoir . . . adapted for generating the pressure pulse”

The claim term “a second reservoir . . . adapted for generating the pressure pulse” read by a POSA in light of the ’295 patent’s specification is indefinite as it fails to disclose a sufficiently definite structure. For instance, the claim phrase does not have a plain and ordinary meaning as used. The term “reservoir” was not and is not commonly used in the field of microfluidics to describe a structure that generates a pressure pulse. As a result, there is no commonly understood structure associated with this claim phrase. Moreover, Plaintiff does not—and, indeed, cannot—point to any embodiments disclosed in the specification of the ’295 patent with these features. Thus, a POSA would be unable to determine the structure of the reservoir described in this claim phrase. As such, given that the claim phrase does not have a plain and ordinary meaning and the structure necessary to perform the recited function has not been identified in the specification of the ’295 patent, a POSA cannot determine the metes and bounds of claim 1 of the ’295 patent, which recites this claim phrase. This claim phrase is, therefore, indefinite.

Alternatively, “a second reservoir . . . adapted for generating the pressure pulse” should be construed as a means-plus-function claim as the term “reservoir” is a nonce term as it does not have a plain and ordinary meaning as used in the specification, is not defined in the specification, and does not disclose a sufficiently definite structure. The function of the “second reservoir” is “generating the pressure pulse.” However, there is no corresponding structure for this function. Plaintiff argues that “NanoCollect is wrong to contend that there is no structure disclosed in the specification” yet fails to identify the structure for the “second reservoir” that “generat[es] the pressure pulse.” Instead, Plaintiff cites to language in the specification of the ’295 patent that describes the functionality of “a reservoir” as varying the volume of “a reservoir” to generate a “pressure pulse.” Brief at 18. The actual structure of “a second reservoir” that results in this functionality has nowhere been identified in the specification of the ’295 patent. Indeed, claim 1 of the ’295 patent itself recites this functionality of the second reservoir. Claim 1 of the ’295 patent recites “a second reservoir . . . generating the pressure pulse *based on a change in volume*

or pressure in the second reservoir” (emphasis added). A reservoir does not inherently generate a pressure pulse or vary its volume. A reservoir would require additional structures or qualities to generate a pressure pulse. In this respect, Plaintiff has failed to identify any such “second reservoir” structure in the specification of the ’295 patent. Instead, Plaintiff appears to argue that “coupling a wall of the reservoir to an actuator” is sufficiently definite structure to define the second reservoir. Yet again, as support, Plaintiff only describes the intended function of the “second reservoir” while particularly pointing to *other* disclosed structures, *i.e.*, the first bubble valve and first side passage. (“[u]pon activation of the actuator, the pressure within the reservoir of the first bubble valve **10a** is increased, causing a transient discharge of liquid from the first side passage **174a** as indicated by the arrow.”). Alternatively, the structure identified by Plaintiff is incomplete, to be understood by the POSA a sufficiently definite structure to perform the stated function would also include at least 10a, 70, and 174a.

Q. [41g] “dampening or absorbing the pressure pulse using [a/the] first reservoir”

Defendant’s construction of “dampening or absorbing the pressure pulse using [a/the] first reservoir” to mean “to meaningfully dissipate or to receive the unidirectional flow to the microchannel without recoil or echo using [a/the] first reservoir” should be adopted because it is consistent with a POSA’s understanding of the term in light of the claims and specifications of the Asserted Patents. The arguments above for the claim terms “dampen,” “absorb,” and “pressure pulse” apply here. The arguments above for the claim phrase “dampening or absorbing the pressure pulse using a first reservoir in fluid communication with the microfluidic flow channel” of claim 1 of the ’797 patent also apply here.

R. [41i] “a reservoir adapted for dampening or absorbing the transient pressure pulse”

The claim term “a reservoir adapted for dampening or absorbing the transient pressure pulse” read by a POSA in light of the ’263 patent’s specification is indefinite as it fails to disclose a sufficiently definite structure. Alternatively, “a reservoir adapted for dampening or

absorbing the transient pressure pulse” should be construed as a means-plus-function claim as the term “reservoir” is a nonce term as used in the specification and it does not have a plain and ordinary meaning as used in the specification, is not defined in the specification, and does not sufficiently define a structure. The words “adapted for” support invocation of § 112, para 6 for “reservoir” because the claim term “reservoir” is only defined in the claim by its function, which is for “dampening or absorbing the transient pressure pulse.” Thus, the word “buffer/reservoir” simply recites a function rather than any definite structure. Specifically, the function of the “reservoir” is “dampening or absorbing the transient pressure pulse.”

The structure in the specification that would allow “a reservoir adapted for dampening or absorbing the transient pressure pulse” to be understood by the POSA to have a sufficiently definite meaning is 70b. Plaintiff also points to component 70a in Figures 1-7 of the ’263 patent. Brief at 18. A POSA would not correlate structural components labeled 70a with “dampening or absorbing a pressure pulse propagated across the flow channel.” *See* the ’263 patent (D.I. 1-1, Ex. 5) at 8:35-37 (“Upon pressurizing the compression chamber 70a an amount of liquid is transiently discharged from the first side passage 24a.”).

S. [41j] “a reservoir . . . adapted for originating the transient pressure pulse”

The claim term “a reservoir . . . adapted for originating the transient pressure pulse” read by a POSA in light of the ’263 patent’s specification is indefinite as it fails to disclose a sufficiently definite structure. Alternatively, “a reservoir . . . adapted for originating the transient pressure pulse” should be construed as a means-plus-function claim as the term “reservoir” is a nonce term as used in the specification and it does not have a plain and ordinary meaning as used in the specification, is not defined in the specification, and does not sufficiently define a structure. The words “adapted for” support invocation of § 112, para 6 for “reservoir” because the claim term “reservoir” is only defined in the claim by its function, which is for “originating the transient pressure pulse.” Thus, the word “buffer/reservoir” simply recites a function rather

than any definite structure. Specifically, the function of the “reservoir” is “originating the transient pressure pulse.”

The structure in the specification that would allow “a reservoir . . . adapted for originating the transient pressure pulse” to be understood by the POSA to have a sufficiently definite meaning is 100b. Plaintiff also points to component 70a in Figures 1-7 of the ’263 patent. Brief at 19. A POSA would not correlate structural components labeled 70a and 70b with “originating the transient pressure pulse.”

T. [41k] “a reservoir . . . to dampen or absorb a transient pressure pulse”

The arguments above for the claim phrase “a reservoir adapted for dampening or absorbing the transient pressure pulse” in claim 1 of the ’263 patent also apply here for claim 15 of the ’263 patent.

U. [41l] “a reservoir . . . to originate the transient pressure pulse”

The arguments above for the claim phrase “a reservoir . . . adapted for originating the transient pressure pulse” in claim 5 of the ’263 patent also apply here for claim 16 of the ’263 patent.

V. [42a] “a buffer . . . for absorbing the pressure pulse”

The arguments above for the claim term “buffer” in respect of the ’528 patent apply here. The structure in the specification that would allow “a buffer . . . for absorbing the pressure pulse” to be understood by the POSA to have a sufficiently definite meaning is 10b.

W. [42b] “a buffer . . . for absorbing or dampening the pressure pulse”

The arguments above for the claim term “buffer” in respect of the ’850 patent apply here.

X. [44] “chamber”

Defendant proposes that the term “chamber” be construed as per its plain and ordinary meaning and that no further construction is needed. Plaintiff’s are seeking to re-write the scope of the asserted claims of the ’850 and ’283 patents by effectively redefining the term “chamber” through Plaintiff’s proposed construction of “chamber” as “a physical structure that contains

fluid”—the same construction that Plaintiff proposes for the term “reservoir.” Brief at 20. Indeed, Plaintiff argues that “chamber” is to have the same meaning as “reservoir.” *Id.* In effect, Plaintiff seeks to import the limitation “contains fluid” into the construction of the claim term “chamber” as well as “reservoir.” As support, Plaintiff cites to claims 1 and 5 of the ’283 patent, which recite a “chamber in fluid communication with the duct” via side openings to argue that the claimed chambers are structures that contain fluid. *Id.* Further, Plaintiff cites to components 70, 70a, and 70b in Figures 1-7 of the ’283 patent—“compression” or “actuator” chamber and “buffer chamber”—to argue that these figures show a fluid-filled physical structure. *Id.*

However, Plaintiff’s analysis is based on the operation of the claimed particle sorting chip and particle sorting system of the ’283 and the ’850 patents, respectively, wherein based on Plaintiff’s arguments, the operation of the claimed devices results in fluid entering the compression or actuator chamber and the buffer chamber. Plaintiff does not cite to any support for their position that the chamber components of the device “contain fluid” when not in operation, either before or after. Further, in this analysis, Plaintiff conspicuously did not address the “Particle Input” chamber of the claimed invention. *See* component 88 of Figure 11 of the ’283 patent and the ’850 patent. Typically, particle input chambers are empty until sample is inputted into the chamber. As the construction of the term cannot be changed based on whether the device is in operation or not, Plaintiff’s proposed construction is inconsistent with the claimed inventions of the ’283 and the ’850 patents.

Y. [45] “unique identifier”

Plaintiff is seeking to re-write the scope of claim 11 of the ’188 patent by proposing construction of “unique identifier” as “a unique label, such as a barcode, that renders an object fully traceable.” Brief at 20. The words “unique” and “identifier” are ordinary English words that are easily understood by a jury and do not hold any special meaning. Accordingly, the plain and ordinary meaning of this language should apply and no further construction is needed.

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