

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

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

PLAINTIFF'S REPLY CLAIM CONSTRUCTION BRIEF

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I. DISPUTED CONSTRUCTIONS

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

Although Cytonome believes this term needs no construction, it does not take issue with the first part of NanoCollect’s proposed construction, namely that absorb means “to receive.” Ex. A, Vacca Decl. ¶¶ 50–55. Defining “absorbing” to mean “receiving” or “taking in” would be fully consistent with the only mention of the word “absorb” in the ’528 Patent’s specification: “The second side passage 174b and the second bubble valve absorb the transient pressure variations in the measurement duct . . . The resilient properties [of the reservoir] allow the flow of liquid into the second side passage.” ’528 Patent at 12:28–34.

The second part of NanoCollect’s proposed construction, however—“to receive without recoil or echo”—improperly and unnecessarily imposes a stringent requirement that the absorption be perfectly achieved. Ex. A, Vacca Decl. ¶¶ 50–55. No part of any of the asserted patents requires *perfect* absorption, and persons of skill would not understand the inventions to require it. In fact, a person of skill in the art would readily understand that perfect absorption of a pressure pulse in a microfluidic device is impossible—there will always be at least *some* “recoil” or “echo” due to typical design constraints, such as size. *Id.* Accordingly, a person of skill would understand that the “absorption” required in the claims is whatever absorption is necessary for the given application. *Id.* Indeed, the specification addresses this exact issue:

The spring constant of the buffer 100b may be varied according to the particular requirements by varying the volume of the buffer chamber 70b, the cross-sectional area of the side passage 24b and/or the stiffness or the thickness of a flexible membrane (reference 72 in FIG. 7) forming the buffer chamber 70b.

’850 Patent, 9:51–56; Ex. A, Vacca Decl. ¶¶ 50–55. In other words, the “spring constant”—a characteristic of buffers known by persons of skill to be indicative of the absorption of pressure waves—can vary based on application and does not have to be “perfect.” Ex. A, Vacca Decl. ¶¶

50–55. Depending on whether the “particular requirements” of a device involve absorbing more or less of the pressure pulse, the size of the buffer or the side passages can be changed, a membrane with a different degree of flexibility can be used, or a gas or liquid with lower compressibility can be used. *Id.* None of this is inconsistent with the asserted patents’ claims or specification, which allow for some recoil or echo in the buffer/reservoirs when sorting selected particles, as long as the non-selected particles are not deflected out of their intended flow path. *See id.*; ’850 Patent at 7:35–37, 9:48–51.

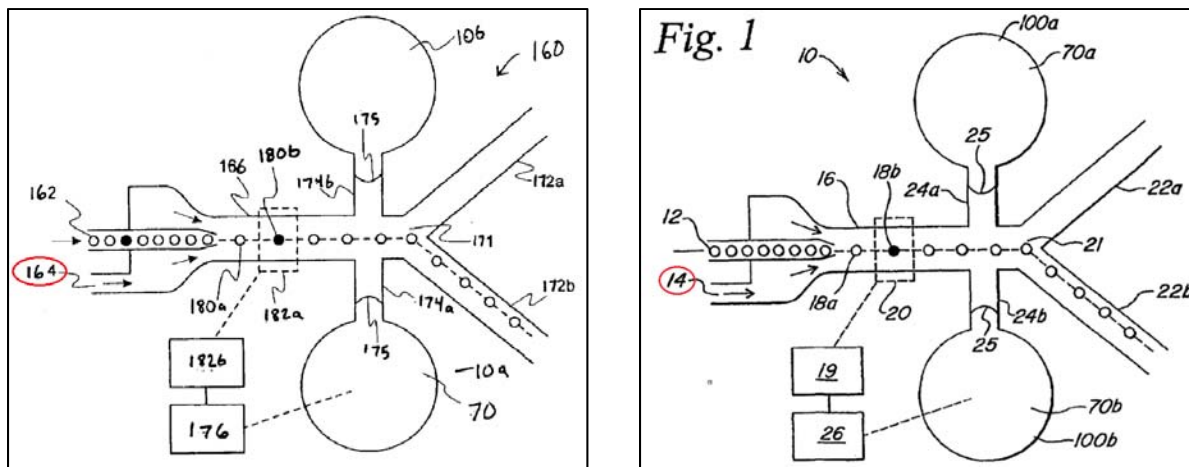
NanoCollect appears to have arrived at its proposed construction by combing through dictionary definitions and cherry-picking the one that would most limit the patented inventions. NanoCollect’s proposed construction is lifted directly from one of multiple dictionary definitions of the word “absorb.” Notably, though, NanoCollect does not adopt the first definition listed in its own dictionary, namely “to take in (something, such as water) in a natural or gradual way.” (Ex. D to Decl. of I. Liston). That definition does not require perfect absorption. Instead, NanoCollect reaches down the page to propose one variation of the fourth listed definition. The Court should not make such a similar reach.

B. [TL] [6] “carrier fluid”

Contrary to NanoCollect’s contentions, the definition of “carrier fluid” expressed in the ’850 Patent is highly relevant to the construction of the same term in the ’528 Patent because the two patents “derive from the same parent application and share many common terms.” *NTP, Inc. v. Research In Motion, Ltd.*, 418 F.3d 1282, 1293 (Fed. Cir. 2005) (citing *Microsoft Corp. v. Multi-Tech Sys., Inc.*, 357 F.3d 1340, 1350 (Fed. Cir. 2004) (relying on prosecution history of *later-issued* patent to construe common terms in earlier-issued patent)). The ’528 and ’850 Patent derive from Provisional Application No. 60/373,256, both cover microfluidic systems for particle sorting, and both name Manish Deshpande and John Gilbert as inventors. The patents

also share many common terms, including “carrier fluid” and several other disputed terms identified by NanoCollect. *See* D.I. 39-1, Joint Claim Chart. Indeed, NanoCollect acknowledges that such common terms should be construed the same way by seeking consistent constructions for such terms across the asserted patents. *Id.*

With respect to “carrier fluid,” the ’528 and ’850 Patents’ specifications both use the term to describe “a sheath of compatible liquid surrounding a particle for carrying one or more particles through a duct or channel.” For example, Figure 16 from the ’528 Patent (left) and Figure 1 from the ’850 Patent (right) are nearly identical figures that show the carrier fluid entering a microfluidic device through supply duct 164 and then surrounding the injected particles to center them in a “sheath” as they pass through the device:



See ’528 Patent at 11:53–60 and ’850 Patent at 5:63–6:3 (providing the same descriptions for these common figures). Moreover, contrary to NanoCollect’s assertion, just because the carrier fluid must be “compatible” with particles and serve as a “sheath” does not mean the same fluid cannot also be located in “side channels” without particles. If that were the case, NanoCollect’s construction would be incorrect because it requires the “carrier fluid” to “contain[] particles.”

C. [AR] [7] “pressure pulse”

The Court should reject NanoCollect’s construction of “pressure pulse” because it improperly and unnecessarily injects a directionality (“a unidirectional flow . . .”) into the claim language. First, directionality cannot be read into the “pressure pulse” because, where the patentee intended to impose a directional requirement, it did so explicitly, using other claim language. The best example of this is in claims 1 and 7 of the ’850 Patent. Claim 1 includes a “pressure pulse” limitation, and claim 7—which depends from claim 1—narrows the scope of that “pressure pulse” limitation by specifying that the “pressure pulse is applied across the duct.” This demonstrates that the patentee intended the “pressure pulse” of claim 1 to be broader than the unidirectional pressure pulse of dependent claim 7.

Second, NanoCollect’s proposed construction would improperly exclude one of the embodiments described in the specification. *See Verizon Servs. Corp. v. Vonage Holdings Corp.*, 503 F.3d 1295, 1305 (Fed. Cir. 2007) (“We normally do not interpret claim terms in a way that excludes disclosed examples in the specification”). Figure 6 of the ’850 Patent and the associated text describe a version of the claimed system without an actuating reservoir. Instead, a pressure wave generator (e.g., a plunger or a piezo) acts directly on the liquid in the main flow channel. ’850 Patent, 9:39-44 (“[T]he pressure wave generator . . . can act upon the flowing liquid, either directly or via deflection . . .”). In this embodiment, the resulting pressure pulse would not be unidirectional. Instead, the pressure pulse would radiate outwardly in all directions, including upstream and downstream in the flow channel. Construing the pressure pulse to be unidirectional, as NanoCollect urges, would exclude the embodiment of Figure 6 from at least claim 1 of the ’850 Patent. The Court should not adopt a construction that would read disclosed embodiments out of the claims. *See Verizon*, 503 F.3d at 1305.

D. [TL] [8] “from the stream of particles”

NanoCollect’s construction is wrong because, as NanoCollect acknowledges, it could be understood to mean that deflected particles must be removed entirely from the carrier fluid and not just from the “stream of particles” as claimed. That understanding is contradicted by every sorting embodiment in the asserted patents, which show that an actuator deflects the particles to alter their paths within the carrier fluid. *See, e.g.*, ’188 Patent, 3:35–46, 4:59–5:6, 5:32–61, Figs. 3, 5A–5D; ’528 Patent at 12:35–59, Figs. 16–17C. NanoCollect mischaracterizes the prosecution history when arguing that “Plaintiff’s own understanding” is that the phrase must “encompass both the particles and the fluid.” In the prosecution history cited by NanoCollect, the Cytonome applicants never argued that Dunaway is different from the claimed invention because Dunaway fails to deflect particles from the “stream of fluid.” (*See* Ex. F to Decl. of I. Liston at CYTLLC_001297–298). The applicants’ argument was that Dunaway fails to deflect individual selected particles from the other particles because “[t]he Dunaway reference describes an actuator for a fluid amplifier that selectively redirects the flow path of an entire stream of fluid.” *Id.* at 1297 (emphasis in original); *see also id.* at 1298 (“[T]he Dunaway reference only teaches changing the path of an *entire* stream of fluid between two outlets.”) (emphasis in original).

In any event, NanoCollect’s construction is unnecessarily complicated. NanoCollect admits that the term “stream” takes on its “ordinary meaning” but further argues that using the phrase “continuous moving procession” in place of “stream” would “assist[] the jury in understanding the language of this claim phrase.” But NanoCollect fails to explain why a jury would fail to understand the ordinary meaning of the term “stream” on its own or, even if “stream” were unclear, why “continuous moving procession” is any more clear.

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

1. “Buffer” Has a Well-Understood Meaning and Is Not Indefinite.

NanoCollect offers *no* evidence to support its contention that a “POSA would not understand” the scope of the term “buffer,” falling well short of the “clear and convincing evidence” needed to prove indefiniteness. *BASF Corp. v. Johnson Matthey Inc.*, 875 F.3d 1360, 1365–68 (Fed. Cir. 2017). In *BASF*, the Federal Circuit reversed an indefiniteness finding in a similar case to this one where the defendant failed to cite any relevant evidence of what a person of skill would understand. There, the claim-at-issue recited “a material composition A effective for catalyzing NH₃ oxidation.” *Id.* at 1362–63. The district court found the claim indefinite because “a person of ordinary skill in the art could not determine which materials are within the ‘material composition A.’” *Id.* at 1365–66. The Federal Circuit reversed that finding because the rationale was “entirely unsupported, whether by reference to the specification or other intrinsic evidence or by reference to extrinsic evidence.” *Id.* at 1366–67. Here, NanoCollect also fails to cite any intrinsic or extrinsic evidence to support its bald assertion that “the POSA would not understand [the] metes and bounds” of the term “buffer,” and thus its indefiniteness argument should likewise be rejected.¹

The *BASF* court also disregarded an expert opinion analogous to NanoCollect’s assertion that “[t]here 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.” The *BASF* defendant’s expert argued that “there are effectively a ‘limitless number’ of materials that can” serve as the claimed “material” and thus the claim is

¹ This Court should also reject NanoCollect’s indefiniteness argument because it is based on mere attorney argument. *See, e.g., Dasso Int’l, Inc. v. Moso N. Am., Inc.*, C.A. No. 17-1574-RGA, 2019 WL 2135855, at *2 (D. Del. May 16, 2019); *MiiCs & Partners Am., Inc. v. Toshiba Corp.*, C.A. No. 14-803-RGA, 2016 WL 4573103, at *10 n. 3 (D. Del. Aug. 31, 2016); *M2M Sols. LLC v. Sierra Wireless Am., Inc.*, C.A. No. 12-30-RGA, 2016 WL 1298961, at *3, 6 (D. Del. Mar. 31, 2016); *IBSA Institut Biochimique, S.A. v. Teva Pharm. USA, Inc.*, C.A. No. 18-555-RGA, 2019 WL 3936656, at *9 (D. Del. Aug. 20, 2019).

indefinite. *Id.* at 1364. In rejecting that argument, the Federal Circuit viewed the specification’s “numerous examples” of the claimed material as evidence *against* indefiniteness, and further noted that patentability did not turn on the particular material chosen. *Id.* at 1367–68. Similarly, here, the ’528 Patent discloses several examples of buffer structures used for “absorbing” a pressure pulse, and patentability does not turn on the particular structure chosen. *See, e.g.*, ’528 Patent at 12:27–30. Therefore, if anything,² NanoCollect’s acknowledging that the specification discloses “multiple” components that could serve as a buffer cuts *against* indefiniteness.

In any event, a person of skill would readily understand the term “buffer” as a “physical structure that contains fluid and receives a pressure pulse” in light of the intrinsic evidence. Ex. A, Vacca Decl. ¶ 35–43. A person of skill would consider the top “reservoir 70” in Figure 17A of the ’528 Patent as one example of a buffer because it receives the pressure pulse to be absorbed and is connected to a “side channel” as described, for example, in claim 22. Ex. A, Vacca Decl. ¶ 35–43.

References cited during prosecution further demonstrate that “buffer” was commonly used in the art to describe such pressure-absorbing structures. For example, U.S. Patent No. 5,777,649 to Otsuka (“Otsuka”)—which covers an “ink jet printing head”—repeatedly refers to a “buffer chamber” or “buffering chamber” that is a chamber structure “for retaining air to absorb vibration of the ink.” Otsuka at 6:24–39, Figs. 1 and 2 (depicting a “buffer chamber” as component 13); Ex. A, Vacca Decl. ¶ 38. And although the asserted patents are distinguishable over Otsuka and the other prior art, allowance did not hinge on a different use of the term “buffer” in the prior art than in the claims.

² NanoCollect’s argument should not even be considered because, unlike the defendant in *BASF* (who provided an expert declaration), NanoCollect fails to offer any evidence of what a person of skill would understand.

Moreover, the '528 Patent's prosecution history shows that the term "buffer" is used interchangeably with a "reservoir" that receives a pressure pulse. During prosecution, the applicants added claims reciting "*a buffer . . .* for absorbing a pressure variation" and amended other claims to recite "a second *reservoir* for absorbing a pressure variation." D.I. 39-2 at 2–5 (emphasis added); *see also* D.I. 39-3, Applicant Response at 7. The Examiner likewise made no distinction between the terms, rejecting both the "buffer" and "reservoir" claims based on "reservoirs" described in Dunaway. Ex. B, 6/22/2004 Office Action at 2. The Examiner and the applicants therefore both used the terms "buffer" and "reservoir," and a reservoir is a well-understood structure in the art. Ex. A, Vacca Decl. ¶¶ 19–34.

Finally, NanoCollect cites no authority for its suggestion that "buffer" may be indefinite solely because the term is not expressly defined or described in the specification. That is not the law. Courts regularly reject indefiniteness arguments in such cases. *See, e.g., Trover Grp., Inc. v. Tyco Int'l, Ltd.*, No. 2:13-CV-0052-WCB, 2014 WL 3736340, at *9 (E.D. Tex. July 28, 2014) (Bryson, J.) (citing *Nautilus, Inc. v. Biosig Instruments, Inc.*, 134 S. Ct. 2120, 2129 (2014)); *STX, LLC v. Epoch Lacrosse, LLC*, C.A. No. RDB-14-3511, 2015 WL 4885534, at *7 (D. Md. Aug. 14, 2015).

2. "Buffer" Is Not a "Nonce" Word and Does Not Invoke a Means-Plus-Function Construction.

As explained above, the term "buffer" invokes a structure described in the intrinsic record—namely a physical structure that receives a pressure pulse—and thus does not trigger § 112 ¶ 6. NanoCollect incorrectly contends that a term "defined by what it *does*" is necessarily a "nonce word" that rebuts the presumption against invoking § 112 ¶ 6 here. That is not the

standard.³ Section 112 ¶ 6 does not apply “if the claim term is used in common parlance or by persons of skill in the pertinent art to designate structure, even if the term covers a broad class of structures and *even if the term identifies the structures by their function.*” *Skky, Inc. v. MindGeek s.a.r.l.*, 859 F.3d 1014, 1019–20 (Fed. Cir. 2017) (emphasis added) (quotes omitted).⁴

Moreover, although NanoCollect fails to address it, the *TEK Global* case explained that “particular structural elements” added in dependent claims are additional evidence against subjecting a related *independent claim* to § 112 ¶ 6. 920 F.3d at 786. NanoCollect does not dispute that the “flexible membrane” in dependent claim 24 describes a “particular structural feature” that can be part of the claimed “buffer.” Accordingly, the intrinsic record shows that the term “buffer” was used by the patentees and persons of skill in the art to designate structure and is not a “nonce” word.

To the extent the Court considers them, dictionary definitions further militate against invoking § 112 ¶ 6 because they define “buffer” “as a noun denoting structure.” *See Lighting World, Inc. v. Birchwood Lighting, Inc.*, 382 F.3d 1354, 1360 (Fed. Cir. 2004), *overruled on other grounds by Williamson*, 792 F.3d at 1339. Similar to the way “connector” was defined in *Lighting World* as “any of various devices for connecting one object to another” (382 F.3d at 1360), Merriam-Webster defines “buffer” as “any of various devices or pieces of material for reducing shock or damage due to contact” (Ex. C). This is strong evidence that “buffer” would

³ Even if it were the standard, “buffer” would not be subject to § 112 ¶ 6 because the term is not defined solely by “what it does.” A “buffer” must be an actual, physical structure in the claimed microfluidic device. If the pressure pulse were “absorbed” or “dampened” by removing fluid from the device, for example, the “absorbing” or “dampening” functions would occur, but there is not necessarily a physical “buffer” present.

⁴ *See also Personalized Media v. Int’l Trade Comm’n*, 161 F.3d 696, 705 (Fed. Cir. 1998) (refusing to construe “detector” as a means-plus-function term even though “a ‘detector’ is defined in terms of its function” and “does not connote a precise physical structure in the minds of those of skill in the art”)).

be understood by a person of skill to designate structure and is not subject to § 112 ¶ 6. *Wasica Fin. GMBH v. Schrader Int'l, Inc.*, C.A. No. 13-1353-LPS, 2019 WL 1011321, at *8 (D. Del. Mar. 4, 2019) (viewing dictionary definition “as strong evidence that the term [‘switching element’] would have a known meaning to a person of ordinary skill” and declining to apply § 112 ¶ 6 despite the term’s “functional” definition).

Finally, if NanoCollect maintains its position that “buffer” is indefinite even if the Court were to rule that § 112 ¶ 6 applies, NanoCollect would be incorrect. As NanoCollect acknowledges, the patent provides at least one example of a structure that a person of skill would understand as a “buffer,” namely components “70 (described as 70b), 10b, 174b, and 175 as disclosed by the specification.” This alone is sufficient to overcome any indefiniteness challenge to a means-plus-function claim. *See Intel Corp. v. VIA Technologies*, 319 F.3d 1357, 1365–67 (Fed. Cir. 2003) (holding that claim was “not indefinite merely because no specific circuitry is disclosed” where patentability did not turn on the specific circuitry employed) (citing *In re Kullmann*, 115 F.3d 942, 946–47 (Fed. Cir. 1997) (holding that a computer was the structure to perform the claimed function even though “computer” did not appear in the specification)).

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

The arguments for the term “buffer” in the ’528 Patent also apply to the ’850 Patent. Ex. A, Vacca Decl. ¶ 42–43. Additionally, the specification *repeatedly* uses the term in a way that confirms NanoCollect’s construction that a “buffer” is a structure that contains fluid and receives a pressure pulse. *Id.*; ’850 Patent at 6:24–26 (describing component 100a in Fig. 1 as “a buffer for absorbing the pressure pulse”), 9:51–53 (describing “buffer 100b” as a structure having a “spring constant” and a “volume”). Indeed, NanoCollect acknowledges that the term “buffer” refers to specific structures in the specification (e.g., components “70a, 100a, 24, and 25”) and is not “used in a purely functional manner.” *See Flo Healthcare Sols., LLC v. Kappos*, 697 F.3d

1367, 1374 (Fed. Cir. 2012) (holding Patent Trial and Appeal Board erred by invoking § 112 ¶ 6 where “[t]he term ‘height adjustment mechanism’ appear[ed] in the written description of the ’178 patent twenty-four times, and not once [wa]s it used in a purely functional manner”). That is different from using a “nonce word” in a claim to invoke a function (such as “a means for absorbing the pressure pulse”), which would have limited the claim to a structure (such as a “buffer” or “reservoir”) disclosed in the specification that can perform the claimed function.

G. [AR] [12] “selectively applying”

The claim term “selectively applying” is not indefinite. NanoCollect’s argument depends on a deliberately obtuse reading of the claim language. NanoCollect misreads the claim language “an actuator for selectively applying,” interpreting that language to require the actuator itself to “select when, where, and how much pressure pulse to apply.” NanoCollect offers no evidence to support its assertion that a POSA would understand the claims this way. The actuator, though, need not actually make those “selection” decisions itself, and the patent specification makes clear that an actuator “selectively applying” a pressure pulse is readily understood by persons of skill in the art. As explained in the “Background” section of the ’850 Patent, known sorting devices—typically involving a computer—can analyze particles and decide how particles will be handled. ’850 Patent, 1:44-55. That decision is then used to electrically activate the actuator to generate a pressure pulse. *Id.* at 1:53-55 (“The outcome of the decision is then applied to deflect the direction of specific particle . . .”); *id.* at 2:45-50 (“ . . . an electrically activated transducer is located in the channel for deflecting a specific particle having an appropriate predetermined characteristic . . . yielding upon electrical activation a pressure wave in the channel”). NanoCollect offers no evidence to contradict the specification or otherwise support its indefiniteness argument.

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

NanoCollect’s own cited language from the ’528 Patent shows an “actuator” that is “connected to the first side channel,” and thus the claim is not indefinite. Namely, the patent explains that “activation of the first bubble valve [by the actuator] causes a transient pressure variation in the first side passage 174a.” ’528 Patent at 12:23–37. For the actuator to cause a “pressure variation” in the first side passage (an example of a “first side channel”), the actuator and side passage must be “connected.” Figures 16–17C support this interpretation by showing an actuator 176 connected to a bubble valve 10a that includes a side passage 174a.

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

NanoCollect fails to offer *any* argument that the phrase “a first reservoir operatively associated with the flow channel and adapted for dampening or absorbing a pressure pulse propagated across the flow channel” would not inform “those skilled in the art about the scope of the invention with reasonable certainty,” and thus NanoCollect fails to establish indefiniteness. *Nautilus*, 572 U.S. at 910; *BASF*, 875 F.3d at 1365 (requiring clear and convincing evidence to prove indefiniteness). NanoCollect’s only “indefiniteness” argument is a challenge of Cytonome’s argument (based on *TEK Global*, 920 F.3d at 786) that claim 1 is not subject to § 112 ¶ 6 because its dependent claims recite specific structural features. NanoCollect’s only indefiniteness argument therefore has nothing to do with indefiniteness and should be rejected. In any event, a person of skill would readily understand the term “reservoir” as a “physical structure that contains fluid” in light of the intrinsic evidence and alleged prior art cited therein. Ex. A, Vacca Decl. ¶¶ 19–34.

The Court should also reject NanoCollect’s alternate position that § 112 ¶ 6 applies because, as NanoCollect acknowledges, the term “reservoir” is used in the specification and

describes a structure. It is not merely a substitute for the phrase “means for.” Instead of addressing the proper question of whether the term “reservoir” is a structure or a “nonce word,” NanoCollect argues that the function “dampening or absorbing a pressure pulse propagated across a flow channel” could not be achieved by the “reservoir” structure (e.g., component 70) disclosed in the specification. That is an enablement or written description argument as to whether the patent sufficiently discloses “a reservoir” that can be adapted for “dampening or absorbing.” It has no bearing on whether the term “reservoir” is a structure. To the extent the Court considers NanoCollect’s argument, the specification provides detailed examples of “reservoir” that can be “adapted for dampening or absorbing a pressure pulse.” *See, e.g., id.* at Fig. 16–17c, 11:63–12:65. Moreover, NanoCollect refers only to text describing “reservoir 70” on the pressure pulse generation side of the device—it fails to acknowledge that the reservoir on the absorption/dampening side of the device is also labeled “70.” *See* Fig. 17A.

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

See Plaintiff’s Reply Position for “dampening,” “absorbing,” and “pressure pulse.”

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

Although Cytonome does not believe any construction is necessary, in an effort to narrow the issues for the Court to decide, Cytonome agrees to NanoCollect’s proposed claim construction, specifically that the term “dampen” means “meaningfully dissipate.” Ex. A, Vacca Decl. ¶¶ 56–57.

Cytonome, however, does not agree with the additional gloss NanoCollect attempts to apply to the definition “meaningfully dissipate,” nor does Cytonome agree with NanoCollect’s alternative argument (perhaps moot), that the term “dampen” is indefinite. NanoCollect first tries to interpret its own definition in multiple, self-contradictory ways. First, NanoCollect only

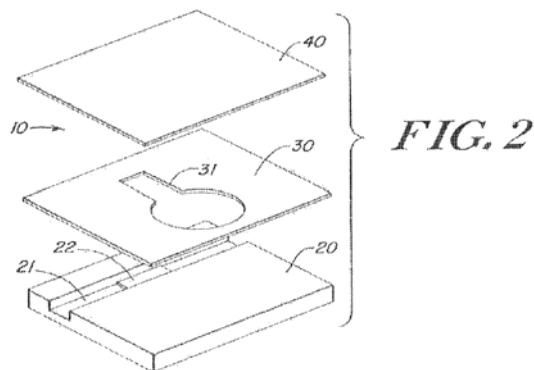
argues that the dampening must exceed a minimum “meaningful” threshold and should exclude mere “incidental dampening.” Cytonome agrees with that. Elsewhere, however, NanoCollect takes a very different position suggesting that the “dampening” should be complete and total. Specifically, NanoCollect argues that dampening means that “upon being meaningfully dissipated, a pressure pulse would not reflect off of the absorbent.” As with the claim term “absorb,” this view would require eliminating all “recoil or echo.” But a POSA would recognize that perfect and total “dampening” is not required, Ex. A, Vacca Decl. ¶ 56–57, and NanoCollect’s statements to the contrary are conclusory and unsupported. In any event, the term “dampen” is not indefinite, because a POSA would be able to discern that the “dampening” claim term is met if, like “absorbing,” the dampening is sufficient to “prevent[] a pressure wave . . . from . . . affecting the flow of the remaining particles in the stream of particles.” *Id.*; ’263 Patent, 11:20-25.

L. [TL] [26] “otherwise sealed”

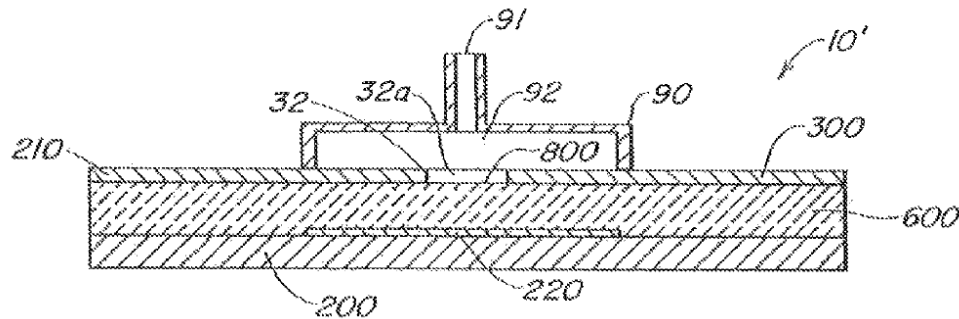
NanoCollect’s extreme position that “otherwise sealed” requires closing off reservoirs from all *internal* openings—except for the internal connection between the reservoirs and the flow channel—is at odds with the claim language. Claim 5 of the ’797 Patent recites “a first reservoir in fluid communication with the flow channel . . . wherein the first reservoir is otherwise sealed from an exterior environment.” NanoCollect incorrectly interprets the word “otherwise” to mean that there can be no openings “other” than the *internal* “fluid communication” recited in the claims. But that improperly reads the phrase “from an exterior environment” entirely out of the claim and cannot be correct. *Info-Hold, Inc. v. Muzak LLC*, 783 F.3d 1365, 1374 (Fed. Cir. 2015) (explaining that Federal Circuit “precedent prohibits us from adopting such a construction” that “read[s] the word ‘placed’ out of the claims”). “From an exterior environment” expressly indicates that “otherwise sealed” is not referring back to any

internal openings. Indeed, the applicants added that language specifically to clarify that the “sealing” in the patents concerns only external openings. D.I. 39-8, Sept. 17, 2014 Applicant Remarks at 7; *id.*, Nov. 17, 2014 Applicant Remarks at 7.

NanoCollect’s construction is also inconsistent with the specification, which uses the term “sealed” to refer only to external openings. For example, the ’797 Patent describes an embodiment with “a microchannel and a sealed, gas-filled reservoir positioned adjacent to and connected to the microchannel.” ’797 Patent at 3:4–6. The phrase “connected to the microchannel” means that the reservoir has an internal opening, but the reservoir is nonetheless described as “sealed.” That is because the reservoir is closed off from the *external* environment so that the fluid (gas or liquid) in the reservoir does not leak. The specification further confirms this by stating that, in Figure 2, “[a] third plate 40 is bonded on top of second plate 30 to close and seal the stacked structure.” *Id.* at 6:60–63. Figure 2 shows that this “sealing” occurs when aperture 31 is no longer open to the external environment above it:



Similarly, in an alternative embodiment, the patent describes forming a “sealed pressurizing chamber 92” in Figure 8A by attaching “pressurizer 90, pressed and sealed onto the top of the second plate 300 to form a tight seal”:



Id. at 8:50–51, Figs. 7–8C. As shown in the figure, chamber 92 is “sealed” despite an internal opening 32a.

NanoCollect incorrectly argues that the ’797 Patent and its prosecution history are irrelevant for construing the term “otherwise sealed.” The ’797 Patent and its prosecution are highly relevant because the ’797 Patent is asserted in this case, and NanoCollect puts the phrase “otherwise sealed” from that patent in dispute. *See* D.I. 39-1 at 15 (grouping together “otherwise sealed” terms from ’283 and ’797 Patents and proposing same construction for both). Additionally, the earlier-issued ’797 Patent and its prosecution history are highly relevant to the ’283 Patent because the two patents cover the same subject matter, share common inventors, and stem from a common parent application (the ’256 Application). *See Microsoft Corp. v. Multi-Tech Sys., Inc.*, 357 F.3d 1340, 1349–50 (Fed. Cir. 2004); *Jonsson v. Stanley Works*, 903 F.2d 812, 818 (Fed. Cir. 1990).

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

See Plaintiff’s Reply Position for “from the stream of particles.” Furthermore, claim 1 of the ’263 Patent recites that “the selected particle *flows* into a second downstream outlet configured to *output a second portion of the fluidic stream* of particles.” In other words, the selected particles continue to flow in a stream of fluid even after deflection.

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

NanoCollect offers no evidence to support its assertion that this claim term is indefinite. Instead, NanoCollect just poses questions without engaging in an appropriate indefiniteness analysis, and seeks improperly to shift the burden of the indefiniteness inquiry to Cytonome. In any event, improperly parses this claim language to require “a switching region . . . connected to the switching region.” The claim language does not require that. Instead, in this claim language, the microsorter has (a) a switching region, and (b) a microfluidic channel. The microfluidic channel is “fluidically coupled” to a number of components, including the switching region. This language can be readily understood by viewing Fig. 3 and reading the text of the specification.

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

See Plaintiff’s Reply Position 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.”

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

NanoCollect’s indefiniteness challenge for the phrase “a second reservoir . . . adapted for generating the pressure pulse” should be rejected because NanoCollect fails to offer *any* evidence of whether a person of skill would be reasonably informed of the claim scope. *Nautilus*, 572 U.S. at 910; *BASF*, 875 F.3d at 1365. To the extent the Court considers indefiniteness, the ’295 Patent, the prosecution history, and the prior art provide clear examples of “reservoirs” that would reasonably inform a person of skill of claim scope. See ’295 Patent at 6:64–67 (identifying a “reservoir 70” in Figures 3 and 4); Ex. A, Vacca Decl. ¶¶ 19–34.

The Court should also reject NanoCollect’s alternate position that § 112 ¶ 6 applies, because the term “reservoir” is used in the specification to describe a structure. It is therefore not merely a substitute for the phrase “means for.” Instead of addressing the proper question of whether the term “reservoir” is a structure or a “nonce word,” NanoCollect argues that the function “generating the pressure pulse” could not be achieved by the “reservoir” structures (e.g., component 70) disclosed in the specification. That is an enablement or written description argument as to whether the patent sufficiently discloses “a reservoir” capable of “generating the pressure pulse.” It has no bearing on whether the term “reservoir” is a structure. To the extent the Court considers NanoCollect’s argument, the specification provides several examples of how the “reservoir” can be “adapted for generating the pressure pulse.” *See, e.g., id.* at Figs. 16–17c, 3:4–24, 4:31–41, 6:21–35, 7:7–29, 7:57–8:15, 11:35–12:65.

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

See Plaintiff’s Reply Position for the claim terms/phrases “dampen[ing],” “absorb[ing],” “pressure pulse,” and “dampening or absorbing the pressure pulse using a first reservoir in fluid communication with the microfluidic flow channel.”

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

Like the other “reservoir” phrases above, NanoCollect fails to cite any evidence to support its conclusory indefiniteness arguments, and thus NanoCollect fails to establish indefiniteness. *See also* Ex. A, Vacca Decl. ¶¶ 19–34. Moreover, the term is not subject to § 112 ¶ 6 because the claimed “reservoir” refers to the “reservoir” structures recited in the specification and thus is not a “nonce word.” *See, e.g.,* ’263 Patent at 8:13–14, 9:17–29, 10:21–29, 10:46–65, Figs. 1–7. Instead of addressing the proper question of whether the term “reservoir” is a structure or a “nonce word,” NanoCollect argues only that the term “reservoir” is “adapted for”

performing a function. Claims that recite a structure to perform a function are not subject to § 112 ¶ 6. *TEK Glob.*, 920 F.3d at 785-87.

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

NanoCollect again fails to cite any evidence to support its conclusory assertion that a “reservoir” term is indefinite, and thus its argument must be rejected. *See also* Ex. A, Vacca Decl. ¶¶ 19–34. Moreover, the term is not subject to § 112 ¶ 6, because the claimed “reservoir” refers to the “reservoir” structures recited in the specification and thus is not a “nonce word.” *See, e.g.*, ’263 Patent at 7:57–8:34, 9:5–33, 10:21–29, 10:46–65, 11:34–12:6, Figs. 1–7. Instead of addressing the proper question of whether the term “reservoir” is a structure or a “nonce word,” NanoCollect argues that the term “reservoir” is “adapted for” performing a function. As shown in the cases above, claims that recite a structure to perform a function are not subject to § 112 ¶ 6.

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

See Plaintiff’s Reply Position for the claim phrase “a reservoir adapted for dampening or absorbing the transient pressure pulse” in claim 1 of the ’263 Patent.

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

See Plaintiff’s Reply Position for the claim phrase “a reservoir . . . adapted for originating the transient pressure pulse” in claim 5 of the ’263 Patent.

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

See Plaintiff’s Reply Position for the claim term “buffer” for the ’528 Patent.

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

See Plaintiff’s Reply Position for the claim term “buffer” for the ’850 Patent.

X. [TL] [44] “chamber”

As an initial matter, the term “chamber” should be expressly construed by the Court because it has the same meaning as “reservoir” and a similar meaning to “buffer.” *See also* Ex. A, Vacca Decl. ¶¶ 44–47. Because some of the asserted claims use the term “chamber,” while others use the terms “reservoir” or “buffer,” it would be helpful for the jury to know that “chamber” does not have a different meaning. NanoCollect acknowledges that the terms have the same meaning when it addresses the term “otherwise sealed.” There, NanoCollect asserts that “a POSA would understand the ‘second *chamber*’ [in the claim] to be ‘the *reservoir* 70a of the second bubble valve [in the specification].” *See* ’283 Patent at 7:39–42.

NanoCollect’s argument that “particle input chambers are empty until sample is inputted into the chamber” and thus a chamber does not “contain fluid” when the device is not in operation is nonsensical. As explained in Plaintiff’s opening brief for the term “fluid,” a fluid can be a liquid or a gas. When the chamber is “empty,” it contains gas and thus contains a fluid. By that same token, the claimed “reservoirs” and “buffers” may contain liquid or gas fluid.

Y. [TL] [45] “unique identifier”

By separately addressing the terms “unique” and “identifier,” NanoCollect demonstrates why a construction of the phrase “unique identifier” is needed. Because the jury would likely understand the two terms separately as ordinary English words, it may fail to appreciate that the terms have a specific meaning when combined, namely “a unique label, such as a barcode, that renders an object fully traceable.” *See* ’188 Patent at 11:25–29 (“Each cartridge (and therefore all fluid contact surfaces needed for a single processing run) can be given a barcode or other unique identification, making all of the parts . . . fully traceable.”).

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CERTIFICATE OF SERVICE

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