

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SILENCERCO WEAPONS RESEARCH, LLC

Petitioner,

v.

HUXWRX SAFETY CO. LLC,

Patent Owner.

IPR2024-01214

Patent 8,286,750 B1

**PETITIONER’S SUR-REPLY TO
PATENT OWNER’S MOTION TO AMEND**

TABLE OF CONTENTS

Table of Authorities	ii
I. Introduction.....	1
II. Claim 43 Impermissibly Enlarges the Claim Scope	1
III. New Matter: PO’s Expansion of “Radially Serpentine” Lacks Written Description	4
A. The Specification Defines “Radially Serpentine” Narrowly	4
B. Figure 14 cannot be transformed into “radially serpentine”	6
IV. “Oriented Along The Central Axis” Does Not Require Concentricity	8
V. Grounds of Unpatentability	10
A. Ground 1	10
B. Ground 2	11
C. Ground 3	11
D. Ground 4	12
VI. Conclusion	12
Signature Page.....	13
A. Appendix: Exhibits Listing.....	14
Certificate of Compliance.....	16
Certificate of Service.....	17

TABLE OF AUTHORITIES

Page(s)

CASES

<i>Ariad Pharm., Inc. v. Eli Lilly & Co.</i> , 598 F.3d 1336 (Fed. Cir. 2010) (en banc)	7
<i>Brookhill-Wilk I, LLC v. Intuitive Surgical, Inc.</i> , 334 F.3d 1294 (Fed. Cir. 2003)	5
<i>KSR Int’l Co. v. Teleflex Inc.</i> , 550 U.S. 398 (2007).....	11
<i>Lectrosonics, Inc. v. Zaxcom, Inc.</i> , IPR2018-01129, Paper 15 (PTAB Feb. 25, 2019).....	4
<i>Omega Eng’g, Inc. v. Raytek Corp.</i> , 334 F.3d 1314 (Fed. Cir. 2003)	6
<i>Phillips v. AWH Corp.</i> , 415 F.3d 1303 (Fed. Cir. 2005)	5, 9, 10
<i>Sisvel Int’l S.A. v. Sierra Wireless, Inc.</i> , 81 F.4th 1231 (Fed. Cir. 2023)	1, 2, 3

STATUTES

35 U.S.C. § 316(d)(3).....	4, 7
----------------------------	------

RULES

37 C.F.R. § 42.121(a)(2)(ii)	2, 4
------------------------------------	------

I. INTRODUCTION

PO's Reply does not cure but instead amplifies the many defects in PO's Motion to Amend that the Board has already identified—defects about which PO states the Board is simply wrong. EX1040, 11:6–21; 27:13–28:11. First, Proposed Claim 43 impermissibly enlarges the scope by replacing “high energy device” with “weapon,” sweeping in devices outside the original claim scope. *Sisvel Int'l S.A. v. Sierra Wireless, Inc.*, 81 F.4th 1231, 1237 (Fed. Cir. 2023); EX1040, 12:4–11. Second, PO's redefinition of “radially serpentine” to include nearly all types of flows lacks written description support and introduces new matter. The intrinsic record limits this term to “back and forth around a radius.” Third, PO improperly reads “concentric with” into “oriented along the central axis.” Against this backdrop, the merits of each Ground remain compelling, and PO has failed to meet its burden with respect to each proposed amended claim.

II. CLAIM 43 IMPERMISSIBLY ENLARGES THE CLAIM SCOPE

The Motion to Amend fails as a threshold matter because Proposed Claim 43 broadens, rather than narrows, the issued claim. The Board's Preliminary Guidance correctly recognized this defect: replacing “high energy device” with “weapon” enlarges the universe of covered methods. Paper 22 at 5. PO's Reply does not account for the governing standard and instead advances a misdirection—arguing

that any “weapon” practicing the method “must” be a high-energy weapon. Reply at 1–2. That ignores the law.

Sisvel's test is dispositive: a proposed claim is broader “if it contains within its scope any conceivable apparatus or process which would not have infringed the original patent.” 81 F.4th at 1237; 37 C.F.R. § 42.121(a)(2)(ii). Ignoring this standard. PO instead proposes reliance on a POSITA's knowledge. EX2003, ¶21; EX1040, 19:21–20:10. Under the correct inquiry, whether *all* embodiments of the new claim also satisfy the old, Claim 43 falls short. As PO's expert admits, “weapon” does not describe a perfect subset of high energy devices. EX1040, 12:9-11. While the term ‘weapon’ admittedly includes some high energy devices, it also includes some low energy devices (including crossbows, blowguns, paintball guns, airsoft pistols, and low-energy rifles) *not* previously within the scope of Claim 22, as such weapons could admittedly produce high energy material. EX1040, 17:7–18:14.¹ That is scope enlargement under *Sisvel*.

PO's circular argument not only conflates the nature of the material being discharged with the classification of the device doing the discharging, but also fails

¹ Dr. Neitzel's testimony contains a notable inconsistency regarding the classification of high-energy weapons. In his second declaration, Dr. Neitzel stated unequivocally that “[i]f the weapon discharges a ‘high energy material,’ it must be a high-energy weapon.” EX2003, ¶ 23. However, when questioned during his deposition about whether “if that device produces high energy material, . . . [i]t automatically becomes a high energy device,” Dr. Neitzel testified: “I don't have an opinion.” EX1040, 18:4-14.

for several reasons. EX2003, ¶23; EX1040, 21:4–25; 26:17–27:4; 59:8–11. First, PO's current position renders its own original claim language duplicative and meaningless. EX1040, 22:1–23:5; 26:17–27:4. If, as PO now argues, high energy material can only be discharged from a high energy device, then PO's original limitations of both "high energy material" and "high energy device" in Claim 22 were entirely redundant—a construction PO clearly did not intend when drafting the claim. Second, if PO truly sought to limit Claim 43 to high energy devices, straightforward claim language was readily available (e.g., "from a high energy device that is a weapon"), yet PO chose not to employ such clear language. Third, PO's attempt to define the weapon type through the discharged material creates a fatal enablement deficiency, as "high energy material" remains undefined in the specification, which provides no guidance for distinguishing high versus low energy materials in weapons. EX1040, 13:5–14:23. Under *Sisvel*, scenarios where a "weapon" could discharge high-energy material without qualifying as a "high energy device" are readily "conceivable." *Sisvel*, 81 F.4th at 1237. Proposed Claim 43 would impermissibly capture such scenarios while original Claim 22 would not, thereby expanding the scope of potential infringers through incorrect claim construction. EX1040, 7:15–25.

PO's appeal to the specification's firearm-focused disclosure does not save the day. Reply at 1–2 (citing Ex. 1001). The specification neither defines "weapon"

as a subset of “high energy devices” nor states that the discharge of a high-energy material makes a weapon a high-energy device. Thus, once “high energy device” is replaced by “weapon,” the claim on its face encompasses methods and weapons of all types, not just the subset that qualifies as “high energy devices.” That is precisely what 35 U.S.C. § 316(d)(3) and the Board’s *Lectrosonics* guidance forbid: “[a] proposed substitute claim may not remove a feature of the claim in a manner that broadens the scope.” *Lectrosonics, Inc. v. Zaxcom, Inc.*, IPR2018-01129, Paper 15 at 6–7 (PTAB Feb. 25, 2019) (precedential). Because Claim 43 expands beyond the originally claimed class of devices, it should be rejected.

III. NEW MATTER: PO’S EXPANSION OF “RADIALLY SERPENTINE” LACKS WRITTEN DESCRIPTION

PO’s Motion to Amend relies upon an impermissible redefinition of “radially serpentine.” The Board has already identified the core problem: the issue is not that the words “radially serpentine” appear in the original claims, but that PO now seeks to stretch those words in all the claims, including the original claims, to embrace flow patterns the patent never disclosed. Paper 22 at 5–6. That is new matter, and it is fatal. *See* 35 U.S.C. § 316(d)(3); 37 C.F.R. § 42.121(a)(2)(ii).

A. The Specification Defines “Radially Serpentine” Narrowly

The intrinsic record leaves no room for PO’s expansive attempt at redefinition. The specification clearly defines this term as: fluids that “flow back and forth *around a radius* of the off axis chamber.” Ex. Ex. 1001, 4:34–41

(emphasis added). The patent then separately and distinctly defines “axially serpentine” (back-and-forth along the length) and “helical” (spiraling) flow.

Ex. 1001, 4:29–44. That definitional structure shows the patentee used these as separate, discrete categories.

PO's Reply ignores that structure and tries to recast “radially serpentine” as an umbrella for virtually any pattern—axial, circumferential, helical, and even random turbulence—by cherry-picking general dictionary definitions of “around.” Reply at 5–6 (Ex. 2004). That is not how claim terms are construed. *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) at 1319 (“[T]he presumption in favor of a dictionary definition will be overcome where the patentee, acting as his or her own lexicographer, has clearly set forth an explicit definition of the term different from its ordinary meaning.”). Under PO's argument, “around” is a term with multiple, different meanings: “in, along, or through a circuit,” “here and there: from one place to another,” etc. Ex. 2004.² Such a broad reading, which is divorced from the context of the specification itself, would swallow the limitation whole and

² PO's reliance on a Merriam-Webster entry accessed on September 2, 2025 (Ex. 2004) is not contemporaneous with the patent's filing and issuance, and, thus, should be afforded little to no weight. *Brookhill-Wilk 1, LLC v. Intuitive Surgical, Inc.*, 334 F.3d 1294, 1299 (Fed. Cir. 2003) (finding non-contemporaneous extrinsic evidence “do[es] not reflect the meanings that would have been attributed to the words in dispute by persons of ordinary skill in the art as of the grant of the '003 patent, and for those reasons are not considered in our de novo claim construction analysis.”). EX1040, 30:15–32:12.

deprive a POSITA of any meaningful guidance as to what “radially serpentine” actually requires. The Board should reject it. EX1040, 32:18–35:12.

The prosecution history underscores this point. To secure allowance, the applicant expressly differentiated “axially serpentine” from “radially serpentine,” and explained the latter as fluid traveling in alternating “clockwise to counterclockwise” directions “around the axis.” Ex. 1004 at 093 (pointing to the definition of “radially serpentine” in the specification that describes a radial axis). Those statements confirm that “radially serpentine” denotes rotational back-and-forth about a radial reference (i.e., changing rotational sense around a radius), not the kitchen sink definition advanced in PO's Reply. PO cannot now attempt to erase the very distinctions it relied upon to obtain the claims. *See Omega Eng'g, Inc. v. Raytek Corp.*, 334 F.3d 1314, 1323–26 (Fed. Cir. 2003) (disclaimer narrows scope).

B. Figure 14 cannot be transformed into “radially serpentine”

PO leans heavily on Figure 14 to argue that the patent supports its broadened meaning. Reply at 2–6. But the Board already considered this issue, concluding that: Figure 14 describes circumferential flow “through the annular spaces between concentric cylinders,” i.e., flow around the longitudinal axis—“not radially.” Paper 7 at 14; Paper 22 at 5–6. Nothing in the text accompanying Figure 14 uses or applies the term “radially serpentine” to that embodiment. Ex. 1001 at 9:1–20;

EX1040, 28:22–30:14. Nor does that text disclose the “back and forth around a radius” flow that the specification defines for “radially serpentine.” *Id.* at 4:29–41.

PO's effort to retrofit Figure 14 into “radially serpentine” is precisely the type of after-the-fact broadening that violates § 316(d)(3). The original disclosure never describes a flow pattern in the annular spaces of Figure 14 that alternates direction “around a radius.” PO's Reply simply asserts that circumferential or helical patterns meet the definition. Reply at 3–6. They do not. The patentee knew how to describe helical paths and did so—separately. Ex. 1001, 4:41–44. It never equated helical or circumferential flows with “radially serpentine,” and PO points to no passage that does. The absence of an express, unambiguous description of “back and forth around a radius” in the Figure 14 embodiment is dispositive. *Ariad Pharm., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1351–52 (Fed. Cir. 2010) (en banc) (written description requires that the four corners of the specification reasonably convey that the inventor possessed the claimed subject matter).

Nor can PO's position be salvaged with the argument that, under the Board's construction, fluid “cannot” both rotate around a radius and traverse a length. Reply at 3–6. The Board's construction requires “back and forth around a radius”; it does not forbid axial translation. Paper 7 at 11–14; Paper 22 at 5–6. And, indeed, under PO's definition of “traverse,” simple flow back and forth around the radius does indeed traverse a length of the device, as PO admits *any* movement of any

distance along the longitudinal axis of the device necessarily traverses a length of the device. EX1040, 45:3–18. PO's quarrel is really with the fact that the patent never enabled the "back and forth around a radius . . . while also traversing a length" behavior it now seeks to read into Figure 14. That failure of written description cannot be patched over with *post hoc* semantics or generic dictionary entries. Nor can it be resolved with PO's improper attempt to "redefine radially serpentine" as meaning back and forth flow around a *longitudinal axis* as opposed to a *radius*. EX1040, 36:4 – 41:3; 44:4–21.

In short, PO's attempt to expand the meaning of "radially serpentine" beyond "back and forth around a radius of the off axis chamber" is unsupported by the specification, contradicted by the prosecution history, and would render the term meaningless. The Board should confirm that the Motion to Amend introduces new matter and deny it on that basis.

IV. "ORIENTED ALONG THE CENTRAL AXIS" DOES NOT REQUIRE CONCENTRICITY

PO's attempt to incorporate a "concentric" requirement into the phrase "oriented along the central axis" is as unsupported as it is outcome-driven. The Board was right to question whether "along" necessarily means "concentric with," and nothing in PO's Reply supplies the missing intrinsic support. Paper 22 at 9–10. The claims recite two distinct things: a "central chamber oriented along a central axis," and an "outer shell oriented along the central axis." They do not say the

outer shell is “concentric with” the central chamber’s axis, or “shares” that axis; they say the shell is “oriented along” it. That choice of words matters.

“Along” is a directional term. It denotes extension in the same direction or parallelism—not axial coincidence. *Phillips*, 415 F.3d at 1315–17 (ordinary meaning governed by context and intrinsic evidence). PO offers no citation from the specification or prosecution history that equates “oriented along” with “concentric.” Instead, PO advances a strained theory: because the claims refer to a “central axis,” that axis must be “at the center of the outer shell,” and therefore the shell must be concentric. Reply at 6–7. That conflates the *location* of the axis (a property of the central chamber) with the *orientation* of another structure relative to that axis. The claims require the shell to be aligned in the same axial direction as the central axis—not to be coaxial with it.

PO is plainly trying to get around Thurler, in which the outer walls (tubes g and h) run in the same longitudinal direction as the central tube e and are “oriented along” the axis of tube e even though they are eccentrically positioned. *E.g.*, EX1015, Fig. 1. That is exactly how a POSITA would understand “oriented along”: an elongated structure that extends in the direction of the referenced axis. PO could have explicitly included the “concentric with” language but chose not to do so. To now insist that “oriented along” means “concentric with” would exclude

well-understood configurations like Thurler's and import a limitation the patentee did not write—a transparent attempt to avoid the clear teaching of the prior art.

V. GROUNDS OF UNPATENTABILITY

A. Ground 1

The Board preliminarily found Petitioner had not shown a reasonable likelihood that Proposed Claim 23's added limitations ("outer shell oriented along the central axis" and "fluid outlet ... at an opposite end ... as the inlet") would have been obvious, and questioned whether "oriented along the central axis" necessarily means "concentric." Paper 22 at 8–12.

As detailed above, "oriented along the central axis" is a directional alignment requirement, not a demand for concentricity. The claims say "along," not "concentric with," and PO offers no intrinsic evidence to the contrary. *Phillips*, 415 F.3d at 1315–17. PO's attempt to collapse "along" into "concentric" is an unsupported narrowing and should be rejected, especially given that PO could have simply recited "concentric" in the claim, but chose not to do so.

Second, modifying the outlet to be placed at the forward end is a predictable, results-effective adaptation to achieve the benefits identified by Kenney: symmetric expansion and retard vacuum collapse. EX1039, 1:19–28, 1:91–108; EX1037 ¶¶113–118. That does not erase serpentine flow in the off-axis chamber; it relocates the final egress to obtain Kenney's benefits. The suggestion that one must

choose between serpentine flow and a forward outlet is unsupported in light of the teachings of the prior art references. Paper 7 at 24–26; Reply at 7–10. These points resolve the Board's questions and defeat PO's Reply.

B. Ground 2

PO's response to Ground 2 boils down to an assertion that helical walls are fundamentally incompatible with a Thurler-type suppressor. Reply at 10–11. That is not how obviousness works, and it is not what these claims require.

PO's incompatibility refrain misstates both the law and the claims. Reply at 10–11. The claims require only “a helical wall oriented within at least one of the annular spaces,” with winding ratios/cross-sections expressly contemplated. Motion to Amend at Appendix A. Adding a helical element where the art already teaches it—WerBell's single helix (EX1038, Fig. 2) or Barlowatz's multiple helices (EX1018 at Fig. 1)—is a predictable, results-effective choice to increase path length and tailor flow within one or more annuli. *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398 (2007) at 417. Even if the Board were to maintain concerns borrowed from Ground 1, the helical-wall limitations remain obvious on their own terms. Opp. at 19–22.

C. Ground 3

Ground 3 remains compelling under the Board's construction and the intrinsic record. PO's arguments (Reply at 11–12) both depend on a misreading the

Board has already rejected. “Radially serpentine” means “back and forth around a radius,” and axial traversal can occur. Paper 7 at 11–14; Paper 22 at 5–6. Reeves supplies the concentric, segmented geometry a POSITA would use to implement radial flow around a radius while progressing axially through alternating perforations. Ex. 1019, 1:55–79. Reeves teaches the annular framework and axial segmentation; the central deflectors come from the base references. Opp. at 22–24.

D. Ground 4

Eichenseher does not lack a “reducing throat ... and a flared outlet” (Claim 25) and does provide a motivation to achieve “radially serpentine” flow (Claim 31), contrary to PO’s arguments. Reply at 12. Eichenseher supplies a secure muzzle-end mount with nested cylinders and gas-handling via notches/slots. Ex. 1021 at 1–2, Fig. 1. A POSITA would routinely adapt a known inlet profile to a known mount to improve sealing/flow conditioning. EX1037, ¶¶148–151. For Claim 31, under the Board’s construction, creating radial oscillation segments within annular spaces is squarely within ordinary skill and driven by the same suppression goals discussed in Ground 3. Paper 7 at 11–14; Paper 22 at 5–6; EX1037, ¶¶152–154.

VI. CONCLUSION

For all these reasons, Petitioner respectfully requests that the Board deny Patent Owner’s Motion to Amend.

Signature Page

Respectfully submitted:

By: /Philip W. Harris/
Philip W. Harris
On: October 7, 2025
For: Petitioner

Holland & Hart LLP
222 South Main Street, Suite 2200
Salt Lake City, UT 84101
Tel: 801.799.5767
Email: pwharris@hollandhart.com

A. APPENDIX: EXHIBITS LISTING

Exhibit No.	Description
1001	US Pat. No. 8,286,750 to Oliver
1002	US Prov. App. No. 61/303,553 for U.S. Pat. No. 8,286,750
1003	US Prov. App. No. 61/418,285 for U.S. Pat. No. 8,286,750
1004	US Pat. No. 8,286,750 Prosecution History
1005	US Pat. No. 7,987,944 to Brittingham
1006	US Pat. No. 6,425,310 to Champion
1007	US Pat. No. 7,207,258 to Scanlon
1008	US Pat. No. 5,952,625 to Huff
1009	US Pat. No. 5,029,512 to Latka
1010	US Pat. No. 6,796,214 to Hausken
1011	US Pat. No. 5,078,043 to Stephens
1012	US Pat. No. 1,341,363 to Fiala
1013	Declaration of Mr. Nixon
1014	Curriculum Vitae of Mr. Nixon
1015	US Pat. No. 1,000,702 to Thurler
1016	US Pat. No. 748,157 to Bouton
1017	FR Pat. No. 493,462 to Barlowatz
1018	FR Pat. No. 493,462 to Barlowatz (Certified Translation)
1019	US Pat. No. 582,485 to Reeves
1020	DE Pat. No. 305,012 to Eichenseher
1021	DE Pat. No. 305,012 to Eichenseher (Certified Translation)
1022	Sound Suppressor for the MP40
1023	A MAC History Lesson
1024	US Pat. No. 3,500,955 to Werbell
1025	US Pat. No. 1,797,310 to Wright
1026	US Pat. No. 3,913,703 to Parker
1027	US Pat. No. 5,659,158 to Browning
1028	US Pat. No. 5,136,923 to Walsh
1029	US Pat. No. 8,096,222 to Silvers
1030	US Pat. No. 9,347,727 to Cler
1031	Compact Thermoelectric Converter by NASA
1032	Complaint in <i>HuxWrx Safety Co. LLC v. SilencerCo, LLC</i>
1033	Exhibit C of Complaint in <i>HuxWrx Safety Co. LLC v. SilencerCo, LLC</i>

Exhibit No.	Description
1034	HuxWrx Initial Infringement Contentions in <i>HuxWrx Safety Co. LLC v. SilencerCo, LLC</i>
1035	Amended Complaint in <i>O.S.S. Holdings, LLC v. Thermal Defense Solutions, LLC</i>
1036	July 9, 2025, Neitzel Deposition Transcript
1037	Second Declaration of Mr. Nixon
1038	US Pat. No. 3,667,570 to WerBell
1039	US Pat. No. 1,017,003 to Kenney
1040	September 30, 2025, Neitzel Deposition Transcript

CERTIFICATE OF COMPLIANCE

Under 37 C.F.R. §§ 42.24(d) and 104, the undersigned certifies that this Sur-Reply to Patent Owner's Motion to Amend complies with the page limitation of 37 C.F.R. §§ 42.24(b)(3), (c)(3) of 12 pages.¹

Respectfully submitted:

By: /Philip W. Harris/
Philip W. Harris
On: October 7, 2025
For: Petitioner

Holland & Hart LLP
222 South Main Street, Suite 2200
Salt Lake City, UT 84101
Tel: 801.799.5767
Email: pwharris@hollandhart.com

¹ Excluding the cover page, signature page, and portions exempted under 37 C.F.R. § 42.24(a), which include a table of contents, a table of authorities, a certificate of service or page limits, and appendix of exhibits.

CERTIFICATE OF SERVICE

Under 37 C.F.R. §§ 42.6, 104, and 105, the undersigned certifies that a copy of this Opposition to Patent Owner's Motion to Amend and all associated exhibits have been electronically¹ served, as of the date noted below on counsel for Patent Owner as follows:

Brent Bumgardner (brent@nelbum.com)
David DeZern (david@nelbum.com)
Hux-IPR (Hux-IPR@nelbum.com)
NELSON BUMGARDNER CONROY PC

Respectfully submitted:

By: /Philip W. Harris/
Philip W. Harris
On: October 7, 2025
For: Petitioner

Holland & Hart LLP
222 South Main Street, Suite 2200
Salt Lake City, UT 84101
Tel: 801.799.5767
Email: pwharris@hollandhart.com

¹ Pursuant to 37 C.F.R. § 42.105, the parties have agreed to electronic service.