

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

ROBE LIGHTING S.R.O.,
Petitioner,

v.

GUANGZHOU HAoyang ELECTRONIC CO., LTD.,
Patent Owner.

Case IPR2025-01016
Patent 11,988,373 B1

Title: Light Fixture with Self-Test Ability of Sealing

**REPLY IN SUPPORT OF PETITION FOR INTER PARTES REVIEW
OF U.S. PATENT NO. 11,988,373**

Mail Stop Patent Board
Patent Trial and Appeal Board
U.S. Patent and Trademark Office
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TABLE OF EXHIBITS

Exhibit	Description
1001	United States Patent No. 11,988,373 (“the ‘373 Patent”)
1002	Chart of Claim Limitations for the ‘373 Patent
1003	Prosecution File History of the ‘373 Patent
1004	Declaration of Mike Wood
1005	United States Patent No. 12,085,267 (“Jurik”)
1006	United States Patent Application Publication No. 2015/0103553 (“Jurik 2”)
1007	United States Patent Application Publication No. 2017/0184288 (“Owens”)
1008	United States Patent Application Publication No. 2014/0119019 (“Hsu”)
1009	United States Patent Application Publication No. 2019/0041291 (“Bialik”)
1010	United States Patent Application Publication No. 2021/0095834 (“Jiang 2”)
1011	United States Patent No. 11,060,713 (“Jiang 3”)
1012	United States Patent No. 11,143,392 (“Jiang 4”)
1013	United States Patent No. 9,777,917 (“Johansen”)

Exhibit	Description
1014	Excerpt of USPTO Prosecution File History of Jurik, IDS filed Jan. 13, 2023, enclosing W.L. Gore Polyvent Product Brochure (printed June 22, 2022)
1015	United States Patent Application Publ. No. 2015/0085487
1016	United States Patent No. 11,051,385
1017	United States Patent Application Publication No. 2013/0088869
1018	United States Patent No. at 9,212,808
1019	United States Patent No. 6,031,749
1020	Studio Spot 575 Manual (1996-2004)
1021	Merriam-Webster Dictionary definition of “synchronous” (available at http://www.merriam-webster.com/dictionary/synchronous)
1022	United States Patent No. 11,268,678
1023	United States Patent No. 11,060,713
1024	United States Patent No. 8,596,836

I. INTRODUCTION

ROBE lighting s.r.o. (“Petitioner”) files this reply in support of its Petition for *Inter Partes* Review (“IPR”) of all claims (1-13) of United States Patent No. 11,988,373 (“the ‘373 Patent”). The Patent Owner Guangzhou Haoyang Electronic Co., Ltd. (“Patent Owner” or “PO”) did not file a preliminary response.

On December 3, 2025, the Board instituted *inter partes* review of all challenged claims on the grounds as stated in the Petition.

On February 23, Patent Owner filed its Response. In this Response, Patent Owner argues that challenged claims 5, 7, 8, 12, and 13 are patentable. Petitioner’s reply to these arguments is set forth below.

In its Response, Patent Owner did not address the patentability of any of claims 1-4, 6, and 9-11. With respect to these claims, Petitioner’s arguments and evidence presented in its Petition sufficiently demonstrate that these claims are unpatentable and should be canceled.

II. SUMMARY

The Board should adopt the ordinary meaning of the term “synchronously” as used in claim 8, i.e., “at the same time.” Patent Owner argues that this term should be limited to one particular meaning: “at the same speed.” In its Response, Patent Owner did not address the patentability of any of claims 1-4, 6, and 9-11. With

respect to these claims, Petitioner's arguments and evidence presented in its Petition sufficiently demonstrate that these claims are unpatentable.

III. CLAIM CONSTRUCTION OF “SYNCHRONOUSLY” LIMITATION

In its Response, Patent Owner argues that the claim limitation “synchronously” from claim 8 should be given a special construction of “at the same speed.” The Patent Owner argues that this special construction is required by both the specification and by the ordinary meaning of this term. (Resp. at 3-11.) On the other hand, Petitioner argues that “synchronously” should have its ordinary meaning, which generally implies “at the same time.” (Pet. at 62-64.)

The Board should construe “synchronously” simply with its ordinary meaning, without limiting it further. Even when considering only the Patent Owner's two dictionary definitions, the ordinary meaning would still encompass both “at the same time” and “at the same speed.” The Board should not construe this term as limited to just the one narrow meaning, “at the same speed,” because doing so would limit the claims without a clear disavowal of the full claim scope.

The limitation “synchronously” only appears in claim 8, as follows:

8. The light fixture according to claim 6, further comprising a temperature control system for synchronously increasing the temperature inside the head housing and the base housing.

(EX1001, '373 Patent at Claim 8.)

First, the parties both offer dictionary definitions for the ordinary meaning of the claim term “synchronously.” Petitioner offers the testimony of its industry expert Mike Wood (EX1004 ¶ 157) supported by the Merriam-Webster Dictionary definition of the root word “synchronous” (EX1012), which provides as follows:

1 : happening, existing, or arising at precisely the **same time**

2 : recurring or operating at exactly the same periods

(EX1021.) Patent Owner does not offer any expert testimony. Instead, it offers the Merriam-Webster Dictionary definition of “synchronously,” (EX2001), which provides as follows:

1 : **at the same time** : SIMULTANEOUSLY, CONTEMPORANEOUSLY

2 : **at the same speed** or frequency

(EX2001 (emphasis added)). The Patent Owner also offers the Cambridge Dictionary definition of “synchronously,” (EX2002), which provides as follows:

in a way that involves things happening or being done **at the same time**
or **speed**:

(EX2002 (emphasis added).) Notably, **both** of Patent Owner’s dictionaries define “synchronously” as at the same time **or** at the same speed. The Board should thus reject the Patent Owner’s argument that the ordinary meaning is limited to “at the same speed.” Petitioner does not object to including the additional meaning “at the

same speed” under the ordinary meaning, but excluding “at the same time” is not appropriate.

The Board should also reject the Patent Owner’s disavowal argument. The Federal Circuit holds that there are only two exceptions to the rule that claims are given their plain and ordinary meaning: “1) when a patentee sets out a definition and acts as his own lexicographer, or 2) when the patentee disavows the full scope of a claim term either in the specification or during prosecution.” *Thorner v. Sony Computer Entm’t Am. LLC*, 669 F.3d 1362, 1365 (Fed. Cir. 2012). In the present case, the Patent Owner does not argue that it acted as its own lexicographer in somehow redefining “synchronously.” It also does not argue that the ordinary meaning “at the same time” somehow conflicts with the specification. Rather, it argues disavowal — that the specification disavows any meaning other than “at the same time.”

Such a disavowal of claim scope must be “clear and unmistakable,” and satisfy an “exacting” standard. *Id.* at 1366, 67. A patentee must “demonstrate intent to deviate from the ordinary and accustomed meaning of a claim term by including in the specification expressions of manifest exclusion or restriction, representing a clear disavowal of claim scope.” *Id.* at 1366 (emphasis added) (quoting *Teleflex, Inc. v. Ficosa N. Am. Corp.*, 299 F.3d 1313, 1325 (Fed. Cir. 2002)). Here, the Patent Owner fails to point out any such expression of manifest exclusion or restriction.

In its Response, the Patent Owner simply points to one embodiment described in the specification which seeks to keep the temperature “consistent” between the head housing 110 and base housing 310. (Resp. at 6-7 (citing EX1001 at 7:47-59).) However, the description of this embodiment does not express any type of manifest exclusion of any ordinary meaning for “synchronously.”

For the situation of taking the head housing and the base housing as a whole system, in order to conduct sealing testing of the whole system, the temperature control system 600 is configured to coordinately control the temperature inside the head housing 110 and the base housing 310 to keep the temperature therein consistent, thus avoiding temperature asynchronous due to mutual influence of air pressure of the head housing and the base housing, such temperature asynchronous may result in inaccurate determination, according to the temperature and air pressure on the sealing performance of the whole system. With reference to FIG. 4, the temperature control system can be, but not limited to, controlled by the controller 500.

(EX1001 at 7:47-59.) There is no clear disavowal of anything in this passage. “Even when the specification describes only a single embodiment, the claims of the patent will not be read restrictively unless the patentee has demonstrated a clear intention to limit the claim scope using words or expressions of manifest exclusion or restriction.” *Hill-Rom Servs., Inc. v. Stryker Corp.*, 755 F.3d 1367, 1372 (Fed. Cir. 2014) (internal quotation omitted) (quoting *Liebel-Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 906 (Fed. Cir. 2004)). *See also SSI Techs., LLC v. Dongguan Zhengyang Elec. Mech. Ltd.*, 59 F.4th 1328, 1336 (Fed. Cir. 2023) (noting that “the

scope of a claim is not ordinarily limited to preferred embodiments or specific examples in the specification”).

Moreover, the description of this particular embodiment also does not mandate increasing the temperature in both housings “at the same speed” (or “rate” or similar terminology). There is no mention at all of speed or rate. In fact, if the temperature in the head housing 110 is ever any different than the temperature in the base housing, e.g., due to heat from the light source 120 in the head housing, then simply increasing the temperature in both housings “at the same speed” would never maintain any type of “consistent” temperature in both housings.

In addition, another embodiment described in the ‘373 Patent does not even include a heating member in the base housing 310, nor a temperature sensor 130 nor an air pressure sensor 140 in the base housing 310, which could be used to control the speed of increasing the temperature in the base housing. Instead, this embodiment simply includes a pipeline 210 (see Fig. 3) connecting the head housing 110 and the base housing 310, and a fan to promote air flow between the housings and generally heat both of the connected housings. (EX1001 at 7:60-8:3.) As with the first embodiment, the description of this alternative embodiment likewise does not include any manifest disavowal of claim scope. In fact, because claim 4 (the base claim to claim 8) recites such a “pipeline” extending between the housings, it is plausible that the Patent Owner had this embodiment in mind for claim 8.

Thus, none of the embodiments actually mandate increasing the temperature in both housing “at the same speed,” much less do they clearly disclaim any other ordinary meanings of “synchronously.” If the Patent Owner had intended that only a narrow meaning apply to this term, it could easily have recited “at the same speed.” It did not do so.

IV. GROUND 2: CLAIMS 5, 12, AND 13 ARE INVALID AS OBVIOUS OVER JURIK (US PATENT. NO. 12,085,267), OR ALTERNATIVELY, OBVIOUS OVER JURIK IN VIEW OF JOHANSEN (U.S. PATENT NO. 9,777,917)

Claim 5: The light fixture according to claim 4, wherein the base further comprises ...

Claim 5 of the ‘373 Patent depends from claims 4 and 1. However, the Patent Owner concedes anticipation of claim 4 and independent base claim 1. Instead, the Patent Owner argues for non-obviousness based entirely on the limitations of claim 5. (Resp. at 12-23.) Similarly, Patent Owner relies exclusively on its argument about claim 5 in attempt to rebut the obviousness of dependent claims 12 and 13. (*Id.* at 33.)

With respect to claim 5, the Patent Owner only argues about limitations 5c and 5d. (*Id.* at 12-23.)

- 5c: wherein the base housing is provided with an additional waterproof breathable valve allowing an internal space of the base housing in air communication with the external space of the light fixture; and**
- 5d: a switch is further provided, which is capable of switching between two states by unblocking/blocking the additional waterproof breathable valve to make the internal space of the base housing in air communication with the external space of the light fixture or not.**

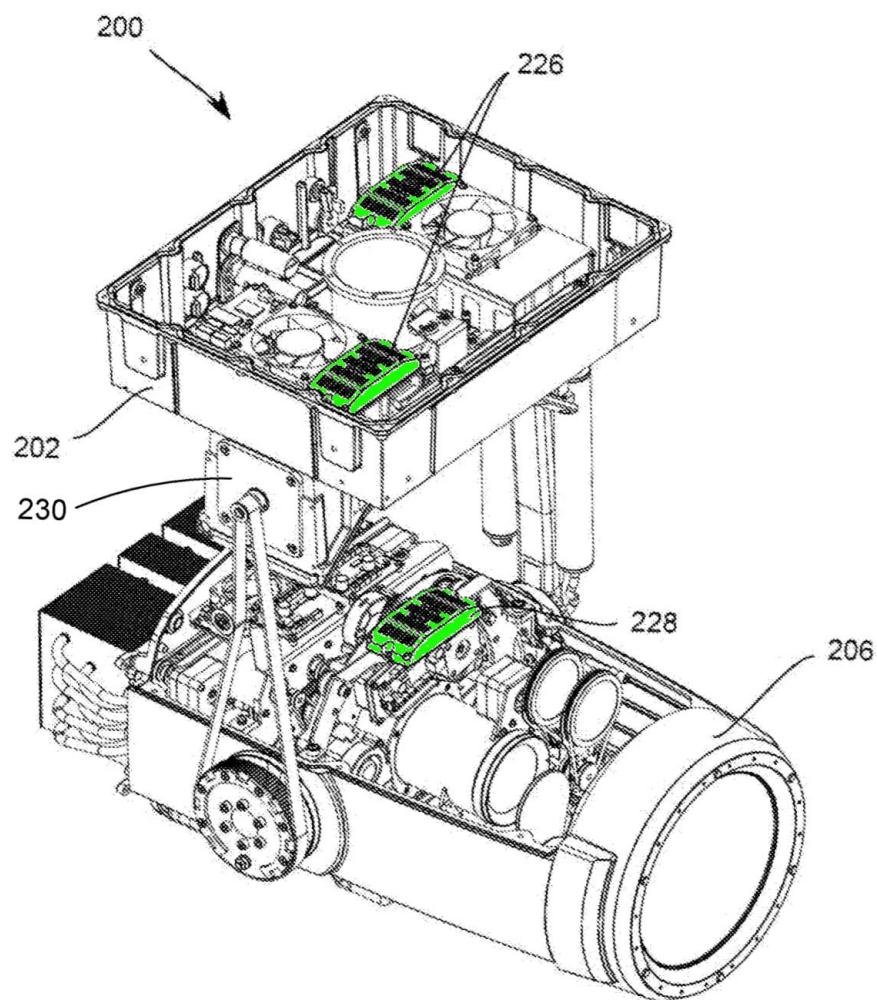
With respect to limitations 5c and 5d, an additional “waterproof breathable valve” and a switch to open and close the valve, the Patent Owner asserts that these limitations should not be considered obvious over Jurik based on four arguments: (1) the drying tubes 212 and 214 are depicted in Jurik as “huge” and would not fit in the base housing (Resp. at 13-15); (2) Jurik “teaches away” from duplicating its humidity and pressure control system (*Id.* at 15-17, 18); (3) Petitioner’s expert testimony is conclusory or relies on hindsight; and (4) simply adding another valve and switch to the base housing in Jurik would not satisfy claim 5 as a whole (Resp. at 21-23.) The Board should reject each of these arguments.

- (1) The size of the “drying tubes” depicted in the drawings of Jurik is not relevant

Contrary to the Patent Owner’s argument, it is not relevant how large the drying tubes are depicted in the drawings of Jurik. First, it goes without saying that the drawings in a patent are not to scale unless explicitly stated, and that “arguments based on drawings not explicitly made to scale” are thus “unavailing.” *Nystrom v.*

TREX Co., 424 F.3d 1136, 1149 (Fed. Cir. 2005). In other words, patent drawings may not be relied on to show particular sizes if the specification is completely silent on the issue.” **Hockerson-Halberstadt, Inc. v. Avia Grp. Int’l, Inc.**, 222 F.3d 951, 956 (Fed. Cir. 2000). In the present case, the drawings in Jurik are not to scale and the specification is silent with respect to the size of the drying tubes. Patent Owner’s argument is thus unavailing.

In fact, the drying tubes may have been depicted in the way they were in the drawings of Jurik simply for convenience or to better illustrate the multiple components. In the detailed description, the drying tubes are simply described as a tube containing a desiccant, like silica. The detailed description does not require any particular size or shape. (E.g., EX1005 at 6:15-17 (Although the example shown uses two drying tubes 212 and 214, in other embodiments one drying tube (or drying chamber) or more than two drying tubes may be included.”).) In fact, similar structures containing desiccant drying agents (drying boxes 226 and 228 highlighted in green below) are depicted as fitting well within the space of both the head housing and the base housing. (*Id.* at Fig. 5, 8:11-16.)



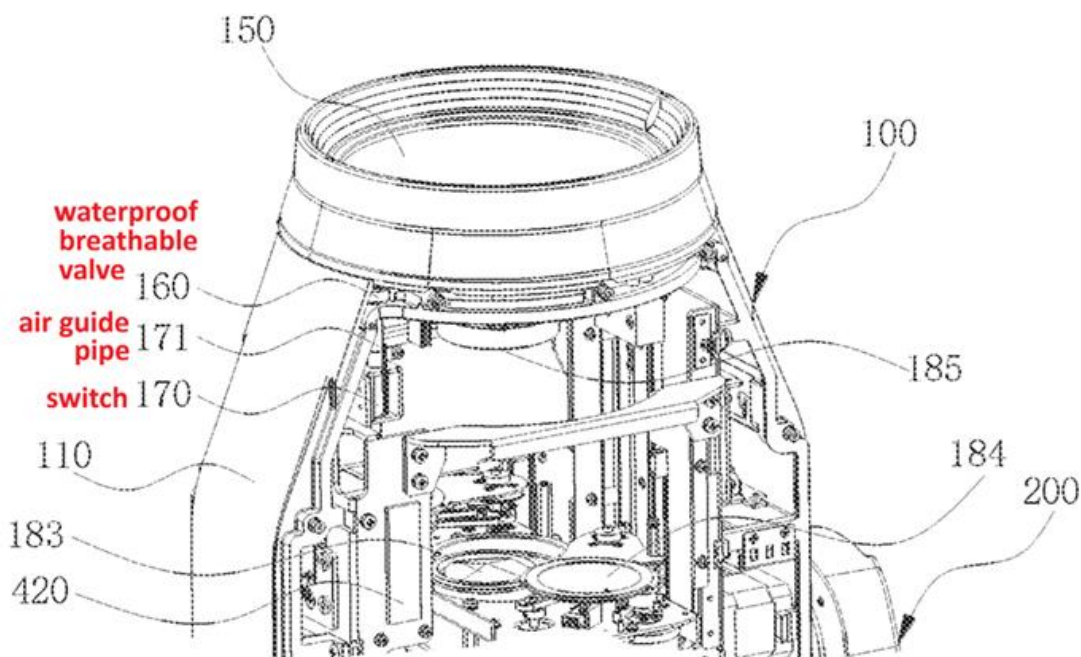
EX 1005, Fig. 5

Thus, even if additional “drying tubes” in the base housing were somehow required by claim 5 or they were a part of Petitioner’s argument, nothing in Jurik would teach away or otherwise dissuade such a modification. The trouble is, such “drying tubes” are neither required by claim 5 nor are they a part of Petitioner’s argument.

Rather, claim 5 only requires an “an additional waterproof breathable valve allowing an internal space of the base housing in air communication with the external space of the light fixture.” (EX1001, Claim 5 (emphasis added).) Claim 5 does not expressly or impliedly require drying tubes or any type of humidity control system.

In addition, drying tubes are not a part of Petitioner’s argument. Petitioner and its expert asserted that the waterproof breathable valve in Jurik is only “membrane” 210/410. (Pet. at 48.) This “membrane” is described in Jurik as “a hydrophobic membrane material such as GORE-TEX . . . or other suitable material that allows air to pass through, but reduces or prevents the passage of water and/or moisture in the form of water droplets. (EX1005 at 38:43 (emphasis added); *see also id.* at 7:27-32 (same for membrane 410).) Contrary to Patent Owner’s argument (Resp. at 17), there is no suggestion in either Jurik or the ‘373 Patent that the membrane 210/410 of Jurik requires the use of drying tubes to function as recited by claim 5.

By way of comparison, the ‘373 Patent describes its waterproof breathable valve with less detail and does not require any particular structure. (EX1001 at 5:16-18 (“waterproof breathable valve 160 can prevent water from entering the inside of the head housing 110, but does not affect air to get in or out of the head housing 110.”).) The drawings likewise depict no discernable structure:



EX1001 at Fig. 1

Here, it is also instructive to look at claim 1 of the ‘373 Patent. In the same way as claim 5, claim 1 also recites a “waterproof breathable valve allowing an internal space of the head housing in air communication with an external space of the light fixture.” (EX1001 at Claim 1.) Here, Petitioner asserted that claim 1 of the ‘373 Patent is invalid as anticipated by Jurik, in relevant part, because the “waterproof breathable valve” of Claim 1 is disclosed by Jurik’s membrane 210. (Pet. at 24-26.) In its Response, the Patent Owner did not argue against anticipation, and thereby effectively concedes that a “waterproof breathable valve” is disclosed by Jurik’s membrane. In short, Patent Owner’s entire argument about “drying tubes” is a red herring.

(2) Jurik's teaching of a combined enclosure with one valve does not teach away from adding a second valve and switch

Contrary to Patent Owner's argument, Jurik does not teach away from adding a second valve and switch merely by disclosing a combined enclosure with one valve and switch. "Prior art teaches away when 'a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the applicant.'" *Arctic Cat Inc. v. Bombardier Recreational Products Inc.*, 876 F.3d 1350, 1360 (Fed. Cir. 2017) (quoting *Allergan, Inc. v. Sandoz Inc.*, 796 F.3d 1293, 1305 (Fed. Cir. 2015)). However, "[a] reference that merely expresses a general preference for an alternative invention but does not criticize, discredit, or otherwise discourage investigation into the claimed invention does not teach away." *Id.* (quoting *Meiresonne v. Google, Inc.*, 849 F.3d 1379, 1382 (Fed. Cir. 2017) (internal quotation omitted)).

First, the question here is actually whether Jurik teaches away from using a second waterproof breathable valve and a second switch to open and close the second valve. The fact that Jurik uses a combined enclosure and does not block air flow between the head housing and the base housing is not relevant to claim 5. Claim 5 does not recite separated enclosures, nor does it otherwise exclude a combined enclosure. In fact, the '373 Patent discloses an embodiment with a pipeline 210

provide a flow of air between the head housing 110 and the base housing 310, thereby creating a single combined enclosure like Jurik. (EX1001 at 7:60-8:3.)

Second, as noted by Petitioner's expert, there are several motivations for including a second breathable valve and switch in the base enclosure, even if Jurik always used a combined enclosure. (EX1004 at ¶ 134.)

There is simply nothing in Jurik's description of its combined enclosure and single waterproof breathable valve that teaches away from using a second waterproof breathable valve in the base enclosure.

(3) Mike Wood's testimony is not conclusory and does not rely on hindsight

Patent Owner's argument about Petitioner's expert testimony is also unavailing. Petitioner's expert Mike Wood is not using claim 5 as a "roadmap" to find it obvious to add a second waterproof breathable valve. (Resp. at 17.) In fact, as quoted above, there are numerous reasons or motivations for adding this second valve which have nothing to do with the limitations of claim 5, or any other part of the '373 Patent for that matter. (EX1004 at ¶ 134 (e.g., noting motivations provided by the potential for blockages, adding flow capacity, and providing redundancy for a failed membrane).)

Contrary to Patent Owner's argument (Resp. at 18), Jurik also does not teach away from addressing these motivations to add a second valve. Even if the need for

additional capacity could not be anticipated, this is not tantamount to teaching away. Here, Patent Owner does not even address the motivation provided by potential blockages. And Patent Owner's argument that Jurik teaches away from redundancy simply because Jurik has the ability to "increase the number of enclosures" is a simple non-sequitur. The need for redundancy caused by a potential valve failure has nothing to do with the number of enclosures. With just one valve, any failure could damage the seals in all enclosures (whether one enclosure or many enclosures).

The motivations to add a second waterproof breathable valve discussed by Petitioner's expert Mike Wood are also not insufficient under *Apple Inc. v. MPH Techs Oy*, 28 F.4th 254, 262 (Fed. Cir. 2022). In the *Apple* case, the Federal Circuit did not find error in the Board rejected an expert's conclusory opinions that prior art could be modified simply because it "would naturally have included"; "it would be logical"; and "could be, and most logically would be." *Id.* These conclusory statements were properly rejected as failing to provide any meaningful explanation. *Id.* at 262-63. Unlike the expert conclusions in *Apple*, Mr. Wood's opinions in the present case are explained with facts and based on several real world concerns that would be faced by skilled artisans.

Mr. Wood alternatively explained that a person skilled in the art would be motivated to include a second waterproof breathable valve as part of a second

humidity and pressure control system in the base enclosure in situations where all of the enclosures could not be connected together or to allow testing the seals in the base enclosure separate from other enclosures, so as to isolate leaks. (EX1005 at ¶ 135.) Patent Owner complains that these motivations are described in the ‘373 Patent, such that relying on these motivations would be impermissible hindsight. (Resp. at 19.) Contrary to Patent owner’s argument, the necessity of testing each of separate containers for a leak, and the benefit provided by independently testing each of multiple containers so as to isolate a leak are not inventive or unique to the ‘373 Patent. Rather, those principles or motivations are part of the common understanding of persons skilled in the art. It would not be hindsight to rely on either of those motivations, even if they are also mentioned in the ‘373 Patent. ***KSR Int’l Co. v. Teleflex, Inc.***, 127 S. Ct. 1727, 1742-43 (2007) (“Rigid preventative rules that deny factfinders recourse to common sense . . . are neither necessary under our case law nor consistent with it.”); *cf. W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1553 (Fed. Cir. 1983) (hindsight only forbids the situation wherein “that which only the inventor taught is used against its teacher”) (emphasis added).

- (4) Patent Owner’s “claim as a whole” argument seeks to add unclaimed limitations

The Board should also reject the Patent Owner’s argument that claim 5 should not be held obvious because the “invention as a whole” requires “independent”

sealing tests for the head and base housing, and there must be “some mechanism to isolate the base housing from the head housing.” (Resp. at 21-22.) The Board should reject this argument because it relies on limitations that are entirely absent from claim 5.

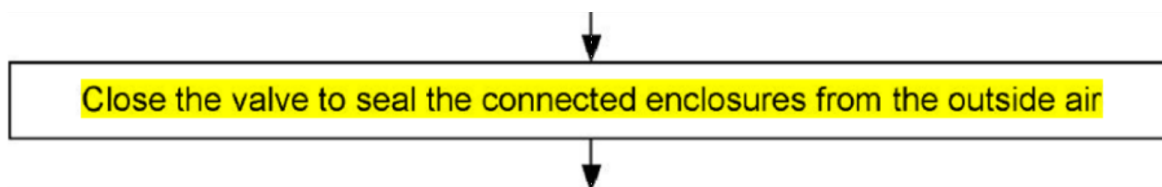
Independent base claim 1 simply requires a switch configured to open a waterproof breathable valve in the head housing when in normal operation and to close the valve when testing. (EX1001 at Claim 1.) Base claim 4 simply recites the addition of a “support arm.” (EX1001 at Claim 4.)

Claim 5 which is currently at issue recites the addition of a temperature sensor and pressure sensor in the base housing, an additional waterproof breathable valve in the base housing, and a switch “capable of switching between two states by unblocking/blocking the additional waterproof breathable valve to make the internal space of the base housing in air communication with the external space of the light fixture or not.” (*Id.* at Claim 5 (emphasis added).) Nothing in claim 5 requires testing at all, much less “independent” sealing tests for the head and base housing. Likewise, nothing in claim 5 requires “some mechanism to isolate the base housing from the head housing.” That requirement only appears in claim 7, which does not even depend from claim 5.

Similarly, the Board should reject Patent Owner’s argument that claim 5 is not obvious because

The mere addition of a second switch and membrane would not allow the second switch to have the capability of “mak[ing] the internal space of the base housing in air communication with the external space of the light fixture or not,” as claimed (’373 patent at claim 5) because Jurik’s base enclosure would still exchange air externally through a connected enclosure.

(Resp. at 23 (emphasis added).) Here, Patent Owner fails to recognize that closing the existing valve 719/819 in Jurik prevents any air from escaping the combined enclosure through the membrane 410. (EX1005 at 10:43-53, 11:31-32, Fig. 9.)



EX1005, Fig. 9

Thus, contrary to the Patent Owner’s argument, closing a second switch on the base enclosure in Jurik would not “exchange air externally through a connected enclosure.”

(4) Patent Owner effectively ignores Johansen

Alternatively, Petitioner asserts that claim 5 is obvious over Jurik in view of Johansen because Johansen disclosures waterproof breathable valves in both its head enclosure and its base enclosure. (Pet. at 49-50.) In its Response, Patent Owner only briefly mentions the Johansen reference, arguing that the combination of Jurik’s valve in the head enclosure and Johansen’s valve in the base enclosure

ignores the obvious size difference between Jurik's dehumidifying device and Johansen's. It also ignores the fact that Jurik is specifically concerned with a luminaire with "connected enclosures"—a term Jurik defines (Jurik at 4:50).

(Resp. at 20.)

The Board should reject these arguments. Whatever size difference there is between Jurik's membrane 210/410 (with or without drying tubes) and Johansen's dehumidifying device 9 is again irrelevant. Claim 5 does not require a particular size waterproof breathable valve. Moreover, Patent Owner's argument that Jurik's "huge" dehumidifying device would not fit in a base enclosure is inapplicable. Assuming for the sake of argument only that size could be inferred by the patent drawings, the waterproof breathable valve in Johansen (dehumidifying device 9) is shown in the drawings as so miniscule that it required an enlarged callout to depict it. (Pet. at 50.)

Lastly, Patent Owner fails to explain the significance of its argument that "Jurik is specifically concerned with a luminaire with 'connected enclosures.'" Claim 5 does not require either connected enclosures or separate enclosures. There is also no logical reason that the waterproof breathable valve on the base enclosure of Johansen could not be used in Jurik. (EX1004 at ¶¶ 135-38.) Both are very simple devices that block water and allow air to pass through. (Pet. at 49-50 (noting that dehumidifying device 9 in Johansen is a waterproof breathable valve).) ***See KSR***

Int'l, 550 U.S. at 416 (“The combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results.”).

Accordingly, claim 5 of the ‘373 Patent is obvious over the prior art Jurik reference, or alternatively, obvious over the Jurik reference in view of the prior art Johansen reference.

Claim 12: The light fixture according to claim 5, wherein a heat homogenizing assembly is further provided in the base housing.

Claim 13: The light fixture according to claim 5, wherein an auxiliary heating assembly is further provided in the base housing.

In its Response, the Patent Owner asserts that claims 12 and 13 of the ‘373 Patent are non-obvious over the prior art only because the base claim, claim 5, is argued to be non-obvious over the prior art. Petitioner addresses the Patent Owner’s argument with respect to claim 5 above.

Patent Owner does not make any additional arguments with respect to claim 12 or 13. Thus, no additional argument by Petitioner with respect to claim 12 or 13 is necessary.

V. GROUND 3: CLAIMS 7 AND 8 ARE INVALID AS OBVIOUS OVER JURIK (US PATENT. NO. 12,085,267)

Claim 7: The light fixture according to claim 6, wherein the pipeline is provided with a blocking device for selectively blocking mutual air flow between the head housing and the base housing.

In its Response, Patent Owner argues that claim 7 of the ‘373 Patent is non-obvious for the following identical reasons as it argued in connection with claim 5: (1) adding a blocking device to Jurik to allow independent testing and isolating leaks would allegedly require impermissible hindsight (Resp. at 24, 25); (2) Jurik’s teaching of connected enclosures allegedly teaches away from enclosures separated by a blocking device (Resp. at 24-25); and (3) opinions of Petition’s expert Mike Wood should be rejected as conclusory (Resp. at 26-27.)

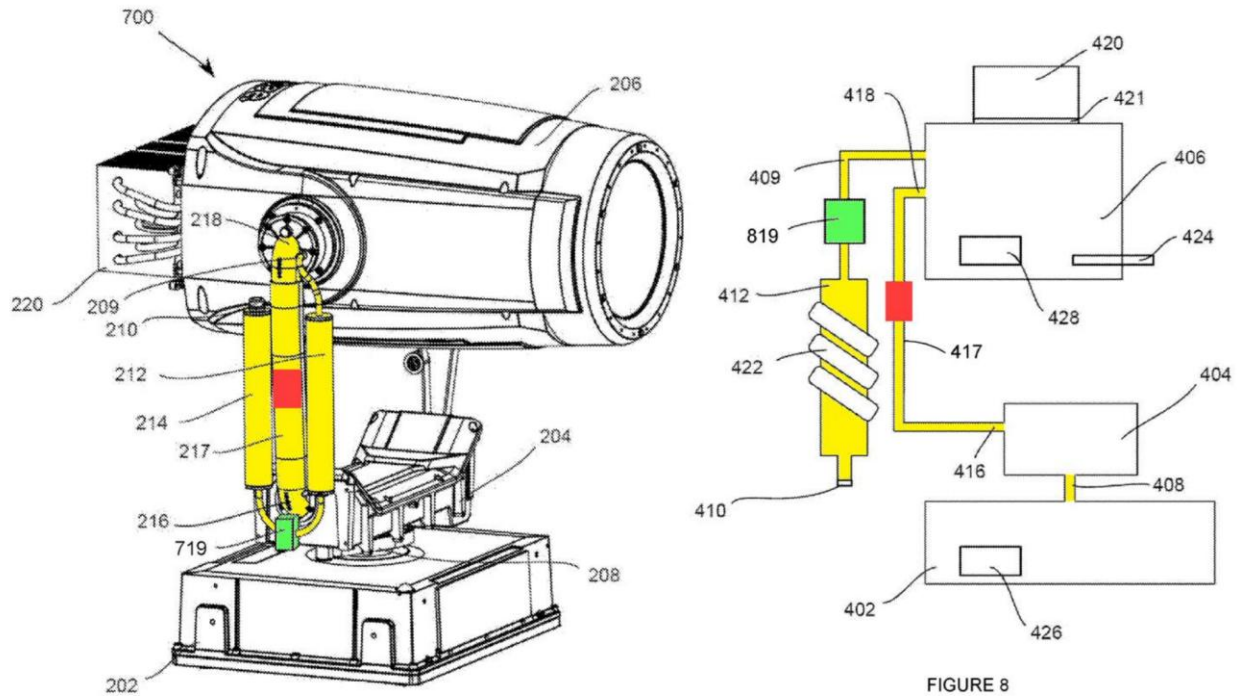
Each of these arguments is thoroughly addressed above in connection with claim 5. Petitioner will not repeat those arguments here, but offers the following brief summary:

(1) Adding a blocking device to Jurik to allow independent testing and isolating leaks is based on Petitioner’s expert discussion of engineering common sense and does not involve impermissible hindsight based on something inventive about the ‘373 Patent. *W.L. Gore & Associates*, 721 F.2d at 1553.

(2) Jurik’s teaching of connected enclosures does not “teach away” from a modification to separate the enclosures by a blocking device because teaching away

requires more than merely disclosing a different embodiment. Teaching away requires some teaching that discourages or dissuades others from making the combination or the modification. Merely expressing a general preference for an alternative invention without criticizing, discrediting, or otherwise discouraging investigation into the claimed invention does not teach away. *Arctic Cat*, 876 F.3d at 1360; *DePuy Spine, Inc. v. Medtronic Sofamor Danek, Inc.*, 567 F.3d 1314, 1327 (Fed. Cir. 2009) (same). Here, Jurik does not criticize, discredit, or otherwise discouraging investigation into the using separate enclosures.

(3) The opinions of Petitioner's expert Mike Wood regarding claim 7 are not merely conclusory. These expert opinions are explained in detail and are based on scientific principles that were well known to persons skilled in the art, such as separately testing containers in order to isolate a leak to one of the containers, thus preventing unnecessarily replacing the seals on all of the containers when only one seal is leaking:



(EX1004 at ¶¶ 151, 153.)

Accordingly, claim 7 should also be cancelled as obvious over the prior art Jurik reference.

Claim 8: The light fixture according to claim 6, further comprising a temperature control system for synchronously increasing the temperature inside the head housing and the base housing

Claim 8 of the '373 Patent is also obvious over the prior art Jurik reference. As demonstrated in the Petition, Jurik discloses each of the limitations of parent claim 6 of the '373 Patent. Patent Owner does not dispute that Jurik anticipates claim 6.

In brief overview, Jurik discloses pipes 208/408 and 217/417 which form a pipeline configured to communicate a head housing (head enclosure 206/406) with a base housing (base enclosure 202/402), with a joint therebetween sealed (“rotating sealed air coupling”). (Pet. at 37-38.)

Dependent claim 8 only adds the structural limitation of “a temperature control system for synchronously increasing the temperature inside the head housing and the base housing.” (EX1001 at Claim 6.) Notably, claim 8 does not include the limitations of claim 5 or 7, e.g., a second set of sensors, a second waterproof breathable valve, or a blocking device.

If the claim term “synchronously” from claim 8 is construed as argued by Patent Owner, i.e., “at the same speed,” Petitioner concedes that Jurik does not disclose or render obvious such a temperature control system. As noted by Petitioner’s expert, such specialized functionality would require disclosure of some type of programming steps, flowcharts, or particular controller feedback and sensor filtering routines. (EX1004 at ¶ 157.) While Jurik does not disclose this level information, neither does the ‘373 Patent. This is one reason that Petitioner’s expert testified that “synchronously” from claim 8 would be viewed by a person of ordinary skill as having the broad, ordinary meaning of “at the same time.” (*Id.*)

When “synchronously” is construed with its ordinary meaning of “at the same time,” Jurik’s disclosure of a temperature control system that activates “all” of its

heating elements in both the head and base enclosures would render obvious increasing the temperature inside the head and the base enclosure “at the same time.” (EX1004 at ¶¶ 159-60.)

In Response, Patent Owner argues the opinions by Petitioner’s expert are conclusory and impermissibly use the ‘373 Patent as a “roadmap.” (Resp. at 28-31.) Contrary to Patent Owner’s arguments, the expert’s opinions are neither conclusory nor do they use the ‘373 Patent as a roadmap.

First, Patent Owner mischaracterizes the disclosure in Jurik of using all of heating elements during testing as merely something that “could” be done and inadequate to support obviousness under *TQ Delta LLC v. CISCO Sys. Inc.*, 942 F.3d 1352, 1359-60 (Fed. Cir. 2019). (Resp. at 28.) The Board should reject this argument.

Unlike the present case, the opinion of the expert in the *TQ Delta* case was utterly devoid of any underlying rationale or explanation. 942 F.3d at 1362 (noting that the expert’s “*ipse dixit* declaration fail[s] to provide any meaningful explanation for why one of ordinary skill in the art would be motivated to combine these references”) (alteration original, internal quotation omitted); *see also id.* at 1359 (condemning opinion that combination of references rendered invention obvious simply because they “could” be combined). In stark contrast, the Petitioner’s expert Mike Wood carefully explains his rationale in detail. (EX1004 at ¶¶ 159-60.)

Patent Owner further asserts that Mr. Wood's explanation and scientific rationale for engaging all of the heating elements at the same time must itself be supported by some additional evidence. (Resp. at 29.) Contrary to this argument, as explained above, an expert opinion on obviousness may be based on common knowledge or a scientific rationale, as exemplified by Mr. Wood's opinions. *E.g.*, *KSR Int'l*, 127 S. Ct. at 1742-43.

Patent Owner next argues that Mr. Wood's opinions should be rejected because they simply parrot the Petition. (Resp. at 29.) This argument should be rejected because "parroting" is not a basis to exclude expert testimony and, more importantly, the Petition actually parrot's the expert's testimony (not vice versa).

Patent Owner lastly argues that Mr. Wood's expert testimony should be overlooked because he allegedly used that '373 Patent as a "roadmap" in forming his opinions. (Resp. at 30.) The Board should reject this argument as factually incorrect. Here, Patent Owner complains about Mr. Wood's rationale for using all of the heating elements at the same time, including the following: (1) more evenly heating all internal areas of the connected enclosures (and avoid a hot spot caused by using only one element; and (2) reducing the time required to sufficiently increase the temperature inside the connected enclosures so as to adequately test the sealing performance. Patent Owner complains that the '373 Patent provides a roadmap for these rationales merely by suggesting that the temperature should be "consistent"

between the head housing and the base housing. (*Id.*) The problem with this argument is that maintaining a consistent temperature between both of the enclosures has nothing to do with Mr. Wood's rationales of even heating, avoiding hot spots, and reducing testing time.

VI. CONCLUSION

For all of these reasons, Petitioner respectfully requests that the Board enter a final written decision cancelling all claims of the '373 Patent.

Respectfully submitted on this 22nd day of May, 2025.

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CERTIFICATE OF SERVICE

I hereby certify that a true copy of the foregoing *Reply in Support of Petition for Inter Partes Review of U.S. Patent No. 11,988,373* has been served in its entirety on May 22, 2026, in accordance with 37 C.F.R. § 42.6(e) using electronic mail.

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CERTIFICATE OF COMPLIANCE

I hereby certify that this Petition complies with the type-volume limitations of 37 CFR § 42.24(c). Excluding portions as permitted under § 42.24(a)(1), this Petition contains 5,586 words as calculated by the “Word Count” feature of Microsoft Word 2019.

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