

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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ASML NETHERLANDS B.V., EXCELITAS TECHNOLOGIES CORP.,  
and QIOPTIQ PHOTONICS GMBH & CO. KG,  
Petitioner,

v.

ENERGETIQ TECHNOLOGY, INC.,  
Patent Owner.

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Case IPR2015-01362  
Patent 8,969,841 B2

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Before SALLY C. MEDLEY, JONI Y. CHANG, and  
BARBARA A. PARVIS, *Administrative Patent Judges*.

CHANG, *Administrative Patent Judge*.

DECISION  
Institution of *Inter Partes* Review  
37 C.F.R. § 42.108

## I. INTRODUCTION

ASML Netherlands B.V., Excelitas Technologies Corp., and Qioptiq Photonics GmbH & Co. KG (collectively, “Petitioner”) filed a Petition requesting an *inter partes* review of claims 1–3 and 7 of U.S. Patent No. 8,969,841 B2 (Ex. 1001, “the ’841 patent”). Paper 4 (“Pet.”). Energetiq Technology, Inc. (“Patent Owner”) filed a Preliminary Response. Paper 10 (“Prelim. Resp.”). We have jurisdiction under 35 U.S.C. § 314(a).

For the reasons set forth below, we institute an *inter partes* review as to claims 1–3 and 7 of the ’841 patent.

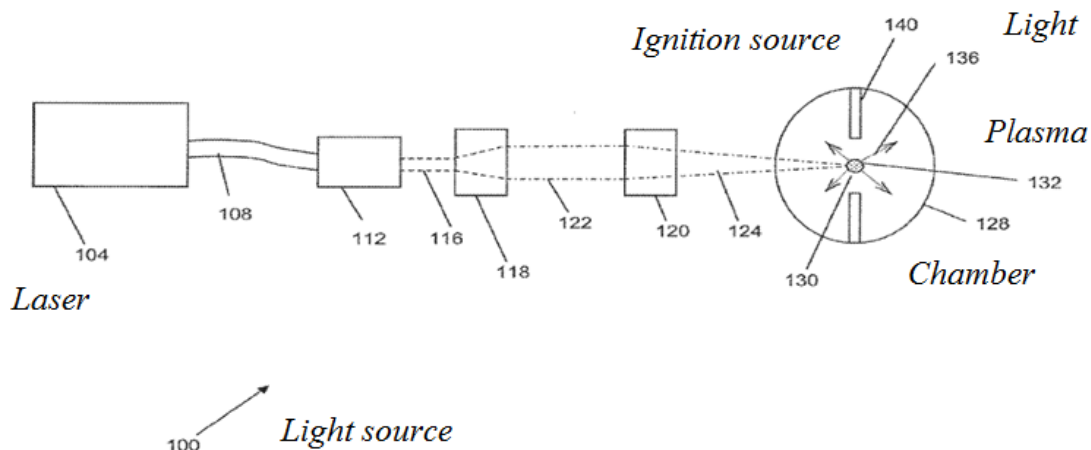
### A. Related Matter

The parties indicate that the ’841 patent is asserted in *Energetiq Technology, Inc. v. ASML Netherlands B.V.*, No. 1:15-cv-10240-LTS (D. Mass.), and identify related proceedings. Pet. 1; Paper 11, 2–3.

### B. The ’841 Patent

The ’841 patent claims under 35 U.S.C. § 120, through a series of continuation and continuation-in-part applications, the benefit of the filing date of an application filed March 31, 2006. Ex. 1001, at [63]; Ex. 1002. The ’841 patent discloses a light source comprising a laser that ionizes a gas within a chamber to produce a plasma-generated light. *Id.* at Abs. According to the ’841 patent, such a light source can be used as a source of illumination in a semiconductor photolithographic system. *Id.* at 1:31–39.

Figure 1 of the '841 patent illustrates a block diagram of a light source, and is reproduced below with annotations added.



As shown in annotated Figure 1, light source 100 includes laser 104, chamber 128, and ignition source 140. *Id.* at 14:40–16:5. Laser 104 outputs laser beam 116 via fiber optic element 108. *Id.* Collimator 112 directs the laser beam to beam expander 118, which produces laser beam 122 and directs it to optical lens 120. *Id.* Optical lens 120 focuses the beam to produce smaller diameter laser beam 124 and directs it to region 130, where plasma 132 is generated along with emitting light 136. *Id.*

### C. Illustrative Claim

Claims 2, 3, and 7 each, directly or indirectly, depend from claim 1, which is reproduced below.

1. A laser driven light source comprising:  
a sealed pressurized chamber having a gas at a pressure greater than 10 atmospheres during operation;  
an ignition source for ionizing the gas within the chamber; and

an at least *substantially continuous laser* for providing energy within *a wavelength range from about 700 nm to 2000 nm* to the ionized gas to sustain a plasma within the chamber to produce *a plasma-generated light having wavelengths greater than 50 nm*,

the chamber further comprising a region of material that is transparent to at least a portion of the plasma-generated light and that allows said portion plasma-generated light to exit the chamber.

Ex. 1001, 48:44–57 (emphases added).

#### *D. Prior Art Relied Upon*

Petitioner relies upon the following prior art references<sup>1</sup>:

Gärtner	FR 2554302 A1	May 3, 1985	(Ex. 1004)
Kensuke	JP 2006010675 A	Jan. 12, 2006	(Ex. 1005)
Mourou	WO 2004/097520 A2	Nov. 11, 2004	(Ex. 1014)

WILLIAM T. SILFVAST, LASER FUNDAMENTALS 1–6, 199–222, 565–68 (2d ed. 2004). Ex. 1006 (“Silfvast”).

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<sup>1</sup> The citations to Gärtner and Kensuke are to their certified English-language translations in Exhibits 1004 and 1005, respectively.

*E. Asserted Grounds of Unpatentability*

Petitioner asserts the following grounds (Pet. 20, 43):

Claims	Basis	References
1–3 and 7	§ 103(a)	Gärtner in view of Mourou and Silfvast <sup>2</sup>
1–3 and 7	§ 103(a)	Gärtner in view of Kensuke and Silfvast

II. ANALYSIS

*A. Claim Construction*

In an *inter partes* review, claim terms in an unexpired patent are given their broadest reasonable construction in light of the specification of the patent in which they appear. 37 C.F.R. § 42.100(b); *In re Cuozzo Speed Techs., LLC*, 793 F.3d 1268, 1275–79 (Fed. Cir. 2015). Here, Petitioner proposes constructions for “light source” and “laser driven light source,” which are recited in all of the challenged claims. Pet. 10–12. At this juncture, Patent Owner does not challenge Petitioner’s proposed constructions. *See generally* Prelim. Resp.

Upon review of the present record, we determine that Petitioner’s constructions are consistent with the broadest reasonable construction.

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<sup>2</sup> Silfvast is omitted inadvertently from each statement of the asserted grounds, although discussed in the Petitioner’s analysis. Pet. 16–19, 28–40, 45–54. Therefore, we treat the statements of the asserted grounds as mere harmless error and presume that Petitioner intended to assert that the challenged claims are unpatentable based, in part, on Silfvast.

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