

■ Features

- 1030 nm ultrashort pulse fiber laser
- Oscillators and amplifiers composed of all-polarization-maintaining fibers
- Compact size with integrated control driver (AC adapter driven)
- Air cooling control
- Use of LDs, optical fibers and others with in-house production.

■ Applications

- Two-photon excitation fluorescence imaging
- Time-resolved spectrometry

■ Outline

Femtosecond pulse laser with outstanding cost performance with in-house production of key components. An average output power of 2 W is achieved with a pulse width of 200 femtoseconds or less. In addition, both the oscillator and amplifier sections are composed of polarization-maintaining fibers, making them high stability and compact with fewer space transmission parts in the laser.



■ Specification

Parameter	Value	Unit
Wavelength	1030	nm
Average output power	2	W
Repetition rate	40	MHz
Pulse width (FWHM)	200	fs
Output type	Free space	—
Polarization	Linear (vertical)	—
Beam diameter (1/e ²)	< 1	mm

* This light source is designed for installation. When using the product, evaluate the safety performance of the entire device and take appropriate measures.

■ Environment

Parameter	Value	Unit
Operating temperature	+15 to +30	°C
Storage temperature	+5 to +50	°C
Operating humidity	≤ 80	%
Storage humidity	≤ 80	%
Operating location	Indoors at an altitude of up to 2000 m	—

* No condensation

Figure 1: Average output power fluctuation

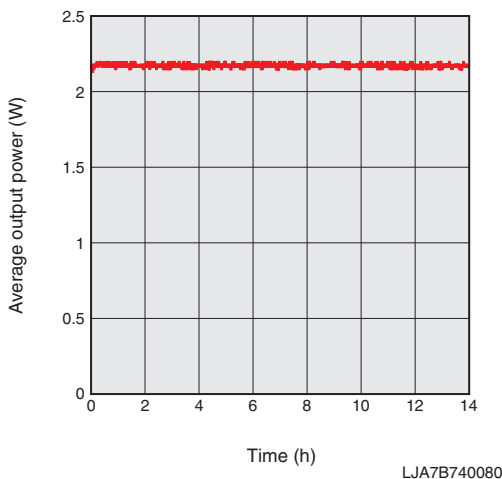
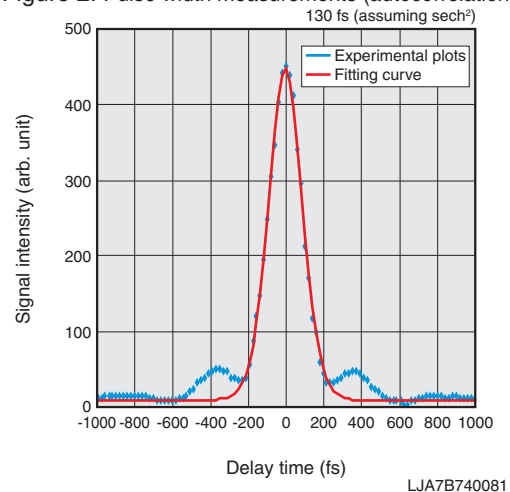


Figure 2: Pulse width measurements (autocorrelation measurement)



Pulsed Fiber Laser L15208-01

Figure 3: Spectrum example

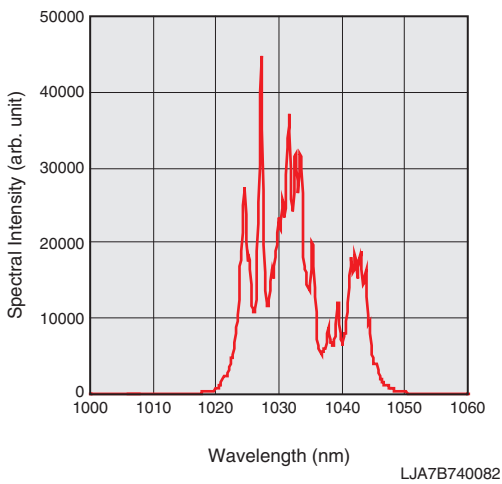


Figure 4: Cross-sectional images of MCD-7 spheroids using two-photon excitation microscopy

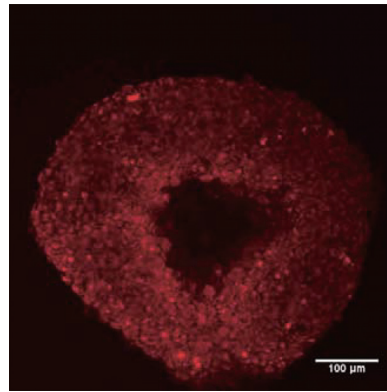
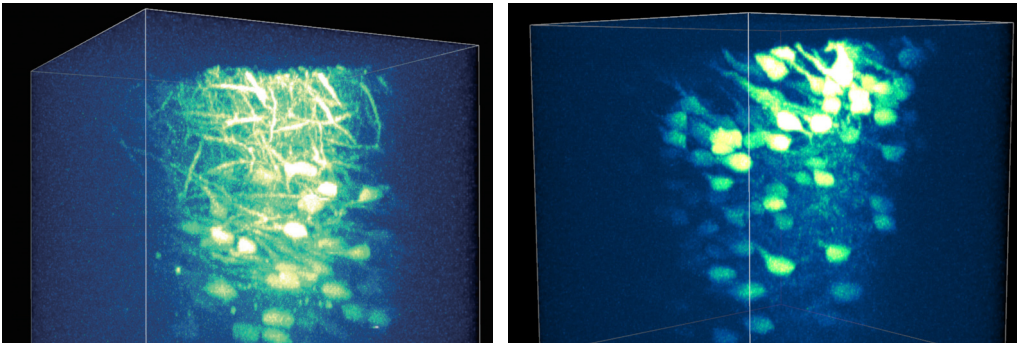


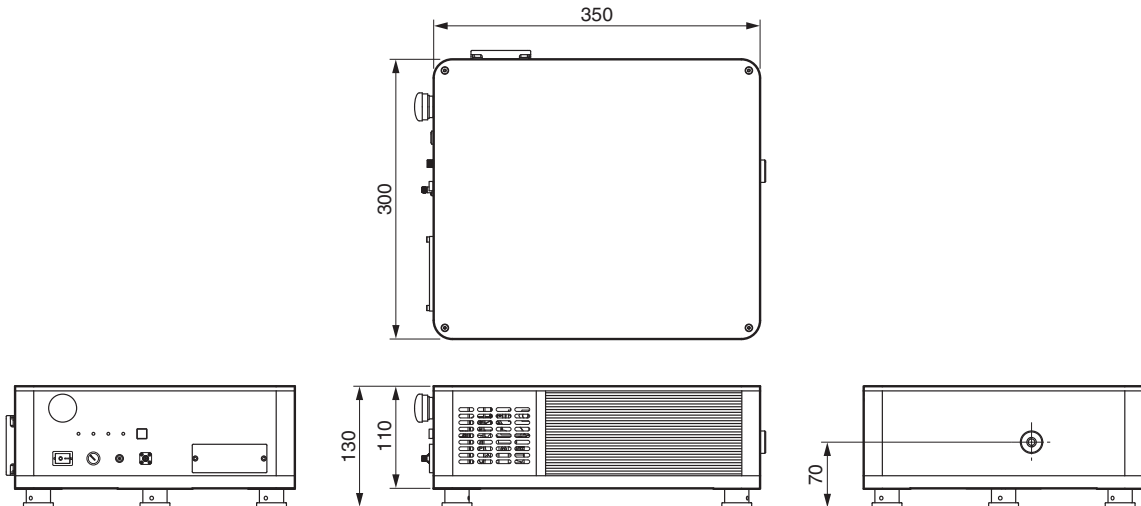
Figure 5: Fixed brain slice sample images using two-photon excitation spinning disk microscopy



60 % thiodiethanol solution-immersed Thy1-YFP-H mouse brain slices were observed by two-photon excited spinning disc confocal microscopy. Field of view 180 μm × 180 μm, depth 200 μm.

Data provided by: Mr. Mitsutoshi Ataka, Assistant Professor Kohei Otomo (Research Institute for Electronic Science, Hokkaido University, National Institute of Natural Science.). Professor Tomomi Nemoto (Research Institute for Electronic Science Laboratory of Cellular and Molecular Biophysics)

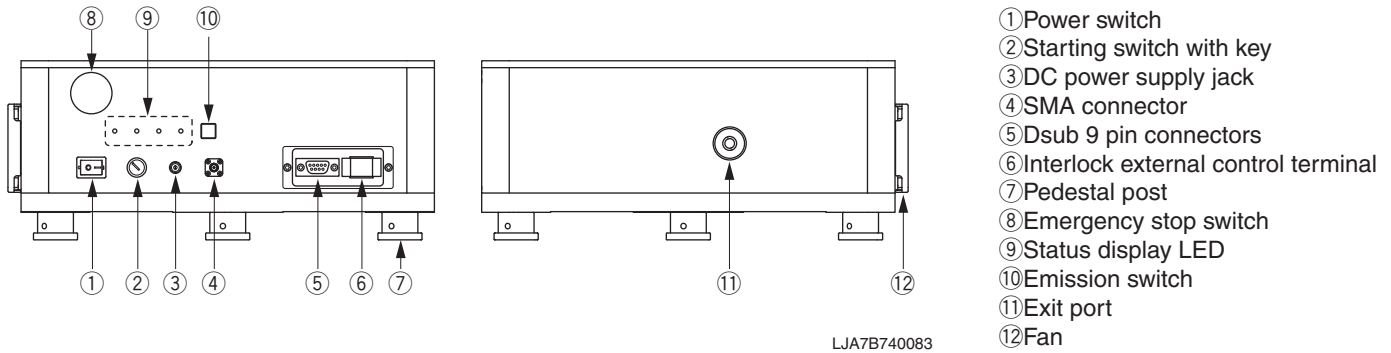
Figure 6: Dimensions (unit: mm)



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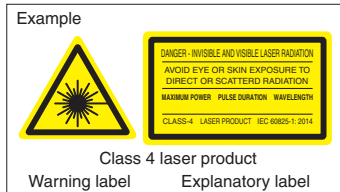
Figure 7: Front / rear view



Danger (Class 4 Laser)

Invisible laser radiation: Avoid eye or skin exposure to direct or scattered radiation

- Laser beam emitted from this product is an invisible laser beam that cannot be seen by the naked eye. This product is a classifying of laser products by IEC 60825-1 and falls under class 4 laser. To use this product safely, follow IEC 60825-1 regulations, etc.



- Information described in this material current as of January 2021. Specifications are subject to change without notice.

HAMAMATSU PHOTONICS K.K. www.hamamatsu.com

Laser Promotion Division, Business Promotion G.

1-8-3, Shinmiyakoda, Kita-ku, Hamamatsu City, Shizuoka, 431-2103, Japan, Telephone: (81)53-484-1301, Fax: (81)53-484-1302, E-mail: sales-laser@lpd.hpk.co.jp

U.S.A.: Hamamatsu Corporation: 360 Foothill Road, Bridgewater, NJ 08807, U.S.A., Telephone: (1)908-231-0960, Fax: (1)908-231-1218 E-mail: usa@hamamatsu.com

Germany: Hamamatsu Photonics Deutschland GmbH.: Arzbergerstr. 10, D-82211 Herrsching am Ammersee, Germany, Telephone: (49)8152-375-0, Fax: (49)8152-265-8 E-mail: info@hamamatsu.de

France: Hamamatsu Photonics France S.A.R.L.: 19, Rue du Saule Trapu, Parc du Moulin de Massy, 91882 Massy Cedex, France, Telephone: (33)1 69 53 71 00, Fax: (33)1 69 53 71 10 E-mail: infos@hamamatsu.fr

United Kingdom: Hamamatsu Photonics UK Limited: 2 Howard Court, 10 Tewin Road, Welwyn Garden City, Hertfordshire AL7 1BW, UK, Telephone: (44)1707-294888, Fax: (44)1707-325777 E-mail: info@hamamatsu.co.uk

North Europe: Hamamatsu Photonics Norden AB: Torshamnsgatan 35 16440 Kista, Sweden, Telephone: (46)8-509 031 00, Fax: (46)8-509 031 01 E-mail: info@hamamatsu.se

Italy: Hamamatsu Photonics Italia S.r.l.: Strada della Moia, 1 int. 6, 20020 Aresa (Milano), Italy, Telephone: (39)02-93 58 17 33, Fax: (39)02-93 58 17 41 E-mail: info@hamamatsu.it

China: Hamamatsu Photonics (China) Co., Ltd.: 1201 Tower B, Jiaming Center, 27 Dongsanhuan Beilu, Chaoyang District, 100020 Beijing, P.R. China, Telephone: (86)10-6586-6006, Fax: (86)10-6586-2866 E-mail: hpc@hamamatsu.com.cn

Taiwan: Hamamatsu Photonics Taiwan Co., Ltd.: 8F-3, No.158, Section 2, Gongdao 5th Road, East District, Hsinchu, 300, Taiwan R.O.C. Telephone: (886)3-659-0080, Fax: (886)3-659-0081 E-mail: info@hamamatsu.com.tw