



Integrated  
Fiber Optics

# FSP series laser

Femtosecond fiber laser for biophotonics

1045 nm, <90 fs, 15 MHz, 1.5 W



Integrated Fiber Optics offers compact telecom grade femtosecond lasers designed for multiphoton microscopy and other biophotonics applications. These models generate pulses with peak power unmatched in the market



## Features

Temporally and spectrally **clean** pulses

**High** optical peak **power**

**Turn-key** operation



## Applications

Multiphoton **microscopy**

Nonlinear and time-resolved **spectroscopy**

**Photopolymerization**

**Pumping** OPO/OPA



The generator within this femtosecond laser does not contain any critical components such as SESAM. The key advantage of this product is that it has zero consumable parts and is exceptionally robust to the environmental disturbances, like vibration and temperature changes. It can operate under normal, zero and anomalous dispersion conditions.



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High pulse peak power



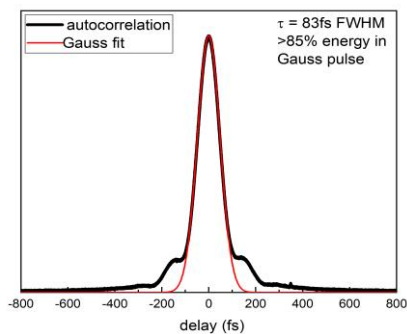
Air-cooled design



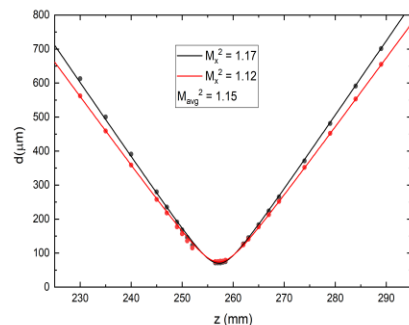
Exceptional stability



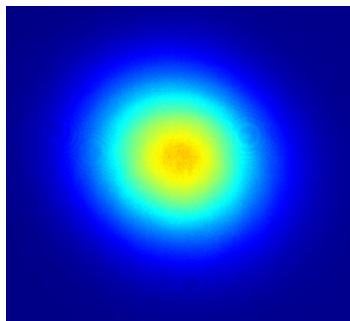
Maintenance-free



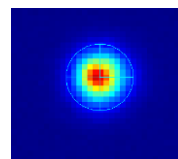
Autocorrelation trace at optimal compression



Z-scan measurement of the beam profile. Resulting  $M^2 = 1.15$ . Beam circularity is  $>0.87$



Left: beam profile from the laser at  $L = 10\text{cm}$ . Beam diameter  $d = 1.7\text{mm}$ , circularity 0.90.



Right: beam profile at waist of 75mm lens. Beam diameter  $d = 68\mu\text{m}$ , circularity 0.98



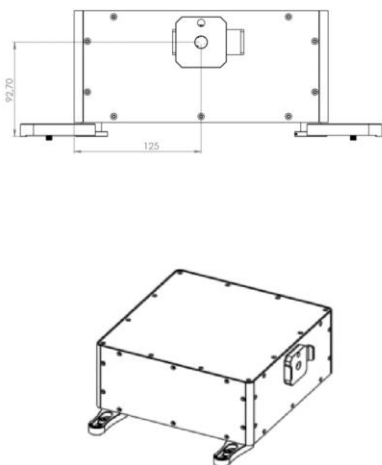
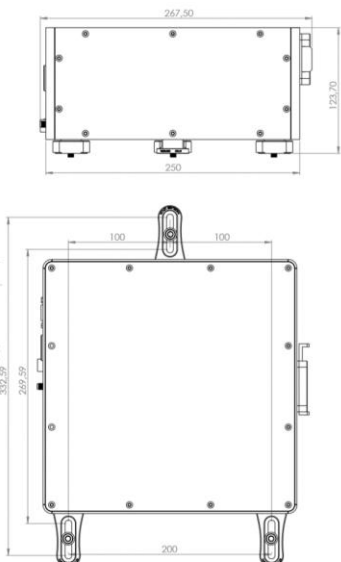
	Model
	FSP-2
Central wavelength	1045 nm
Pulse duration	<90 fs (70 fs typ.)
Dispersion compensation	$\pm 10'000 \text{ fs}^2$
Typical spectral bandwidth (FWHM)	35 nm
Pulse repetition rate	15 MHz
Average power	>1.5 W
Max pulse energy	>100 nJ
Peak power	1 MW
Beam quality	$M^2 < 1.2$
Beam circularity	>0.9
Operating conditions	15-35 °C, humidity - not condensing

**World patented technology**

US10038297, JP6276471,  
EP3178137, CN106575849

Integrated Fiber Optics hold an *exclusive license* of the IP invented by the Center for Physical Sciences and Technology

PATENT



Note: All dimensions are in millimeters.



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Ultrafast Lasers**

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