

Applications

Multiphoton
microscopy

Photopolymerization

Ophthalmology

OPO pumping

litilit

BIOLIT
2

Femtosecond fiber laser for biophotonics

1045nm, 80fs, 2W, 20MHz



Features

Very short and clean
pulses

Robust and stable

Flexible repetition
rate optimized for
multiphoton
microscopy

Maintenance-free &
turn-key

Integrated dispersion
pre-compensation

**Clean pulses
lead to sharp images**

Biolit 2 is a compact, air-cooled femtosecond laser designed with multiphoton microscopy and other nonlinear optics applications in mind.

The industrial-grade device is exceptionally robust, affordable and maintenance-free.

A combination of very short (typ 60fs) and clean pulses, high beam quality and lower repetition rate – compared to solid-state siblings – enables unparalleled multiphoton imaging while preserving the object.



info@litilit.com

+370 675 39583

Savanoriu ave 235, LT-02300 Vilnius, Lithuania



litilit.com

Specifications

	Biolit 2
Central wavelength	1045 ± 5 nm
Average power	>2 W
Pulse duration	<80 fs (60 fs typ.)
Pulse strehl ratio	>0.9
Tunable dispersion pre-compensation ¹⁾	-5 000 fs ² ... +1 000 fs ²
Pulse repetition rate ²⁾	15, 20, 30 or 40 MHz
Peak power	> 1MW@20MHz
Beam quality	M ² <1.2
Beam circularity ³⁾	>0.9
Beam diameter (1/e ²)	1.5 ± 0.5 mm
Beam pointing (pk-to-pk)	< 50 µrad
Pulse Energy Stability (RMS)	<1 %
Warm up time (cold start)	<5 min
Available control interfaces	USB, CAN
Powering requirements	100...240 V AC, 47...63 Hz
Operating temperature	15 – 35 °C
Humidity	non condensing
Transportation/storage temperature	-20 – +70 °C
Dimensions:	
Laser head	266 x 190 x 112 mm
Control unit	449 x 370 x 140 mm
Umbilical length	3 ± 0.3 m
Colling:	
Laser head	air (passive)
Control unit	forced air (fans)

¹⁾ Higher dispersion (up to 15'000fs²) of external optical system can be compensated on request

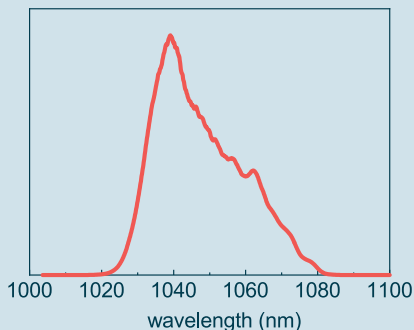
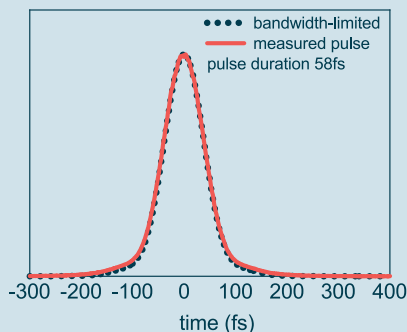
²⁾ Factory preset

³⁾ Defined as the worst case ellipticity along the z-scan ($\pm 5 \times L_{\text{Rayleigh}}$) of the beam

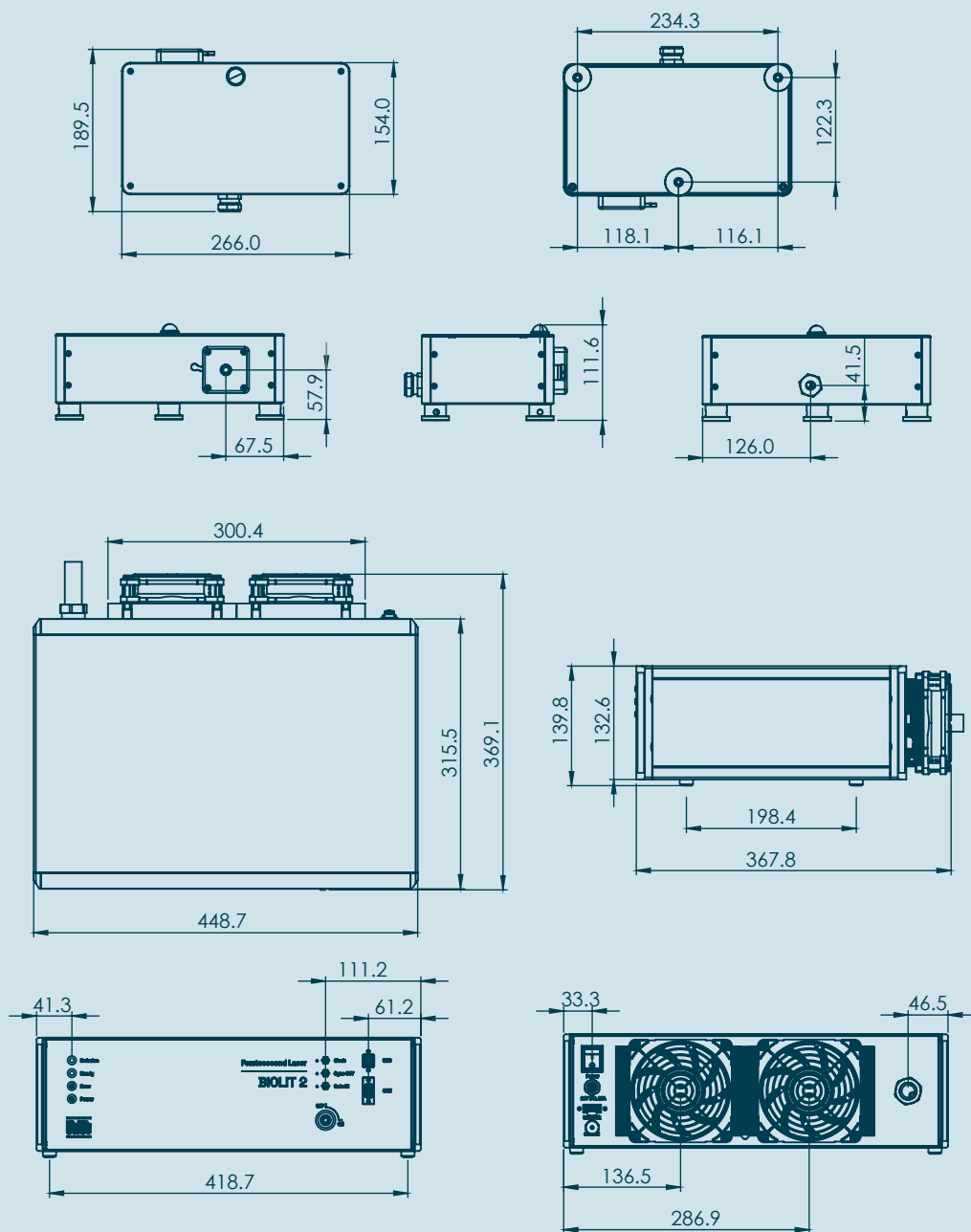
⁴⁾ Indylit lasers are class 4 laser products. Avoid eye or skin exposure to direct or scattered laser light

⁵⁾ World patented technology: US10038297, JP6276471, EP3178137, CN106575849

Performance



Drawings



This image shows a single sheet of white paper with horizontal blue ruling lines. The lines are evenly spaced and run across the width of the page. There are no vertical margin lines or other markings present. The paper appears to be a standard sheet of notebook paper.