

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.

Distributor



amstechnologies
where technologies meet solutions

info@amstechnologies.com
www.amstechnologies-webshop.com

Contact us



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

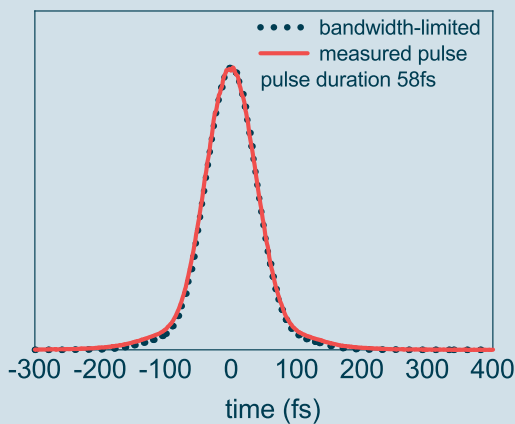
²⁾ Factory preset

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

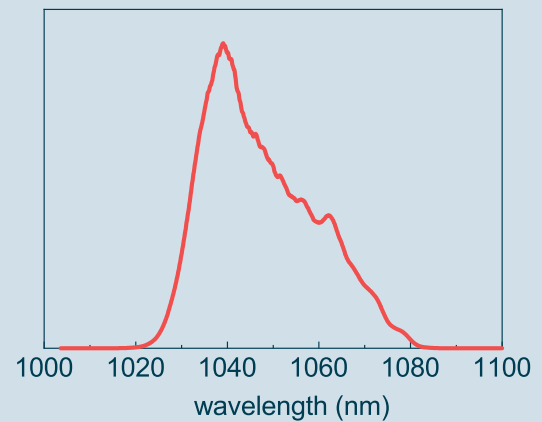
⁴⁾ Indylit lasers are class 4 laser products. Avoid eye or skin exposure to direct or scattered laser light

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

Performance



Measured autocorrelation function of the pulses from Biolit 2 laser



Output spectrum from Biolit 2 laser

Drawings

