

YLMO-2W

Femtosecond Fiber Laser for Life Sciences and Microscopy



Menlo Systems' femtosecond fiber laser integrates the latest developments in fiber technology and incorporates these enhancements into an easy-to-use product.

Our patented figure 9[®] technology delivers reliable and consistent mode-locking, which is ideally suited to ensure long-term stable operation in demanding environments. The YLMO-2W with its PM-fiber design guarantees excellent stability and consistent long-term performance.

The YLMO-2W is engineered with life science and multi-photon applications in mind. The pulses can be pre-chirped to attain their shortest width within their intended target sample. The impeccable beam quality, both spatially and temporarily, ensures the most efficient use of the deposited energy for the targeted multiphoton process.

The installation of the laser system is as easy as it gets, taking only a few minutes. For ease of operation, the laser is switched on by the push of a single button. The maintenance free operation guarantees a worry-free device that enables our customers to focus their time and resources on their actual application.

MenloSystems

KEY SPECIFICATIONS

- Wavelength 1040 nm, 520 nm
- Output Power >2 W
- Repetition Rate 50-100 MHz
- Pulse Width <140 fs
- Pulse Energy >20 nJ

APPLICATIONS

- Multi-Photon Excitation
- Optogenetic Photoactivation
- Single Cell Engineering
- Two-Photon Polymerization

FEATURES

- figure 9[®] Technology
- Reliable Mode-Locking
- Long-Term Stable Operation
- Robust Design for Harsh Environments
- User-Settable Pre-chirped Pulse Compressor
- Fast and Easy Installation
- Maintenance Free Operation
- Compact Design and Silent Operation
- Easy Front Panel and Software Interface
- Fast Startup within 60 Seconds

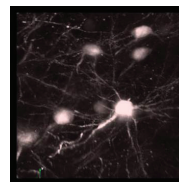
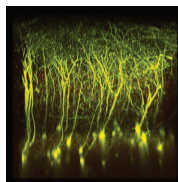
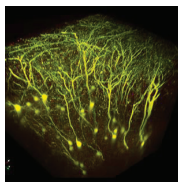
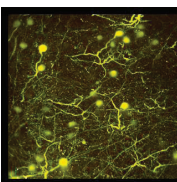
OPTIONS

- **SHG-520**
Second output port for 520 nm
Tunable power ratio between the two output ports.
- **VARIO**
Factory-set value selectable in the 50, 80, or 100 MHz range

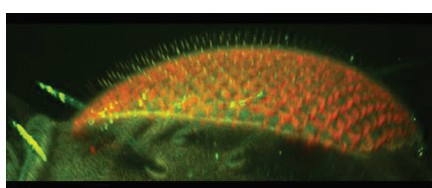
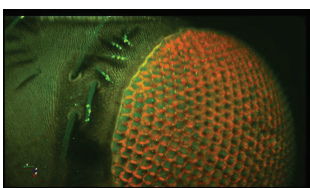
ASK US ABOUT

- Fiber coupling
- Pulse picking

APPLICATION EXAMPLES



2-photon excitation of mouse brain: Imaging of YFP labeled mouse brain with Thorlabs Cerna microscope equipped with YLMO-2W.



3D surface measurement: 3D surface measurement of a tdTomato labeled eye of a fruit fly using a Thorlabs Cerna microscope equipped with YLMO-2W.

YLMO-2W

Femtosecond Fiber Laser for Life Sciences and Microscopy

SPECIFICATIONS	YLMO-2W	YLMO-2W 520
Center Wavelength	1040 nm ± 5 nm	520 nm ± 5 nm
Pulse Width (FWHM)	<140 fs (typ. 120 fs)	<150 fs (typ. 130 fs)
Average Power	>2 W (typ. 2.2 W)	>500 mW*
Pulse Energy	>20 nJ	>5 nJ
Repetition Rate	100 MHz ± 1 MHz	100 MHz ± 1 MHz
Polarization	p-pol. in free space (PER: typ. 23 dB)	s or p-pol. in free space (PER: typ. 23 dB)
Beam Diameter	2.0 mm ± 0.5 mm	2.0 mm ± 0.5 mm
Beam Divergence	<2 mrad	<2 mrad
Beam Quality	M ² <1.2 (typ. <1.1)	M ² <1.2
Dispersion Control	0 fs ² ... - 30.000 fs ²	**

*Average power of SHG output, when seeded with >1 W. Power of seed can be adjusted by the user. Please inquire for specific repetition rates and output powers.

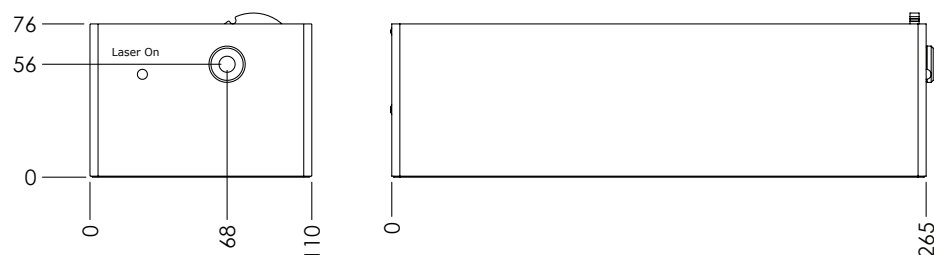
**Dispersion control for the secondary output at 520 nm available on request.

REQUIREMENTS AND DIMENSIONS

Operating Voltage	110 / 115 / 230 VAC, 50 to 60 Hz	
Max. Power Consumption	200 W	
Operating Temperature	15 °C - 30 °C	
Laser Head	265 x 110 x 76 mm ³ / <5 kg	415 x 288 x 110 mm ³ / <17 kg
Control Unit	19", 2 HU (449 x 496 x 96 mm ³), <20 kg	
Umbilical Cord Length	2 m*	
Interfaces	USB, Interlock, Trigger-Out	

*Please inquire your specific umbilical cord lengths.

TECHNICAL DRAWING



Technical drawing of the YLMO-2W laser-head. The laser-head comes equipped with detachable 25mm posts and post clamps. Please contact us for more details and technical drawings of the control unit.

ORDERING INFORMATION

Product Code	YLMO-2W	YLMO-2W 520
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Please call for pricing. Specifications are subject to change without notice. Custom modifications are available, please inquire.

