

# YLMO-930

## 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 solution.

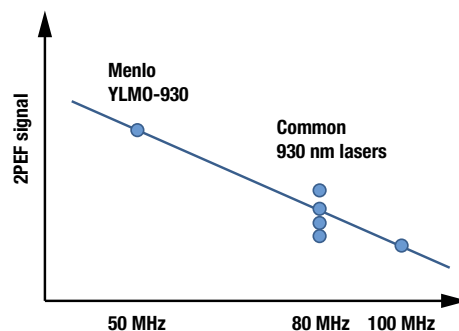
Our patented figure 9<sup>®</sup> technology delivers reliable and consistent mode-locking, which is ideally suited to ensure long-term stable operation in demanding environments. The YLMO-930 with its PM-fiber design guarantees excellent stability and consistent long-term performance. The YLMO-930 is engineered with life science applications in mind. The pulses can be pre-chirped to attain their shortest width within their intended target sample.

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 translates to a worry-free device that enables our customers to focus their time and resources on their actual application.

### PERFORMANCE DATA

#### Maximize your signal - avoid heating

Get higher multi-photon signals with the YLMO-930 using higher pulse energy levels. The repetition rate of 50 MHz allows to have higher multi-photon signals when using low average powers. Highest signal - minimal heating of the sample.

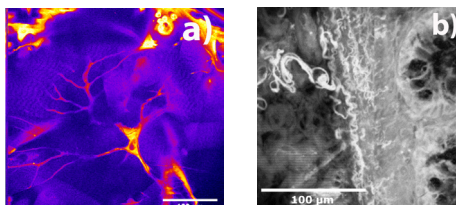


Graph shows 2-Photon Excitation Fluorescence Signal (2PEF) as function of laser repetition rate for a given constant average power

#### Application examples

Two-photon microscopy images using the YLMO-930 for fluorescence excitation.

- a) In-vivo image of drosophila larvae (GFP),
- b) Colon tissue.



Images courtesy of Hervé Rigneault, Institut Fresnel

# MenloSystems

### KEY SPECIFICATIONS

- Wavelength 930 nm
- Repetition Rate 50 MHz
- Pulse Width <140 fs (typ. 120 fs)
- Pulse Energy >10 nJ

### APPLICATIONS

- Multi-Photon Excitation
- Activation of GFP

### FEATURES

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

### OPTIONS

- **Fast Amplitude Modulation**  
rise-time <1 µs

# YLMO-930

**MenloSystems**

## Femtosecond Fiber Laser for Life Sciences and Microscopy

### SPECIFICATIONS

### YLMO-930

Center Wavelength	930 nm $\pm$ 10 nm
Pulse Width (FWHM)	<140 fs, (typ. 120 fs)
Average Power	>0.5 W
Pulse Energy	>10 nJ
Repetition Rate	50 MHz $\pm$ 1 MHz *
Polarization	linear, (>50:1)
Beam Diameter	2.0 mm $\pm$ 0.5 mm
Output Port	freespace
Beam Height	56 mm
Beam Divergence	<2 mrad
Beam Quality	$M^2$ <1.2 (typ. <1.1)
Dispersion Control	0 fs <sup>2</sup> ... - 60.000 fs <sup>2</sup>

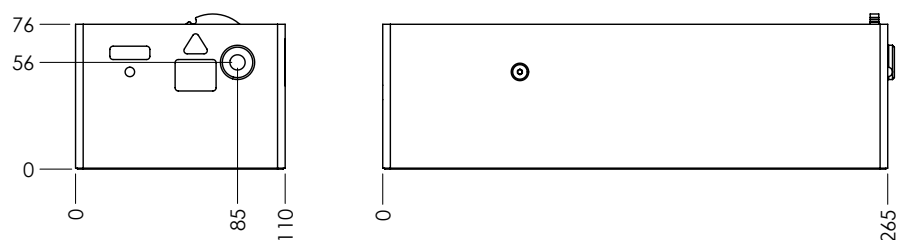
\*Please inquire about your specific repetition rates.

### 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 <sup>3</sup> / <5 kg
Control Unit	19", 2 HU (449 x 496 x 96 mm <sup>3</sup> ), <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-930 laser head. The laser head comes equipped with detachable 25 mm posts and post clamps. Please contact us for more details and technical drawings of the control unit.

### ORDERING INFORMATION

**Product Code** | YLMO-930

Please call for pricing. Specifications are subject to change without notice. Custom modifications are available, please inquire.

**MenloSystems**

Menlo Systems GmbH  
T+49 89 189 166 0  
sales@menlosystems.com

Menlo Systems, Inc.  
T+1 973 300 4490  
ussales@menlosystems.com

Thorlabs, Inc.  
T+1 973 579 7227  
sales@thorlabs.com



Invisible laser radiation  
avoid exposure to beam  
Class 4 laser

