

orange

Femtosecond Fiber Laser

1040 nm & 520 nm

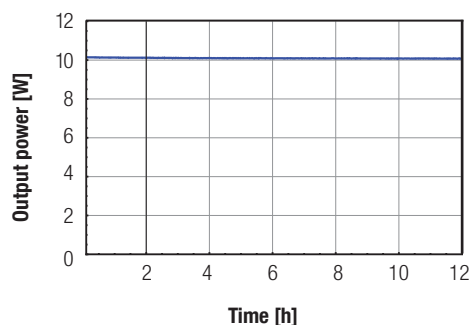


Menlo Systems' femtosecond Yb fiber-baser laser sources now offer more than 10 W in average power with a pulse duration of <math><150\text{ fs}</math>. Based on our unique figure 9[®] design, the lasers offer reproducible and long-term stable operation. Both oscillator and amplifier use polarization maintaining (PM) fiber components only, ensuring excellent stability and low-noise operation. The second harmonic generation is a highly efficient module for maximum performance. The laser is maintenance free, user installed and ready to use at the press of a single button. Customize your laser with the available options to match the requirements of your application.

PERFORMANCE DATA

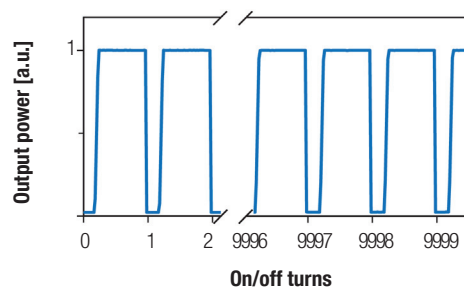
Amplitude noise

<math><1\% \text{ rms}</math> (over 12h)



Reproducibility

Identical and consistent laser performance



MenloSystems

KEY SPECIFICATIONS

- Wavelength 1040 nm / 520 nm
- Output Power >10 W
- Pulse Length <math><150\text{ fs}</math>
- Repetition Rate 50-250 MHz

APPLICATIONS

- OPA/OPO pumping
- Amplifier Seeding
- Ultrafast Spectroscopy
- Cell Surgery
- Multi-Photon Excitation
- 2-Photon Polymerization and 3D Printing

FEATURES

- High Stability and Beam Quality
- Low Amplitude and Phase Noise
- All-PM Solution
- figure 9[®] Technology
- Laser Output in less than 60 Seconds after Pressing On-Button

OPTIONS

- **SHG**
Frequency doubling to 520 nm
- **CHIRPED PULSES**
Picosecond pulses for seeding applications
- **SYNC100**
Repetition Rate Synchronization
Tunable cavity length by high-bandwidth piezo-controlled synchronization
- **RRE-SYNCRO**
Repetition Rate Stabilization
Feedback electronics to phase lock pulses to an external clock (see separate data sheet for more details)
- **VARIO**
User-Defined Repetition Rate
Factory-set value selectable in the 50-250 MHz range
- **MULTIBRANCH**
Additional Seed Ports
Seeding of multiple amplifiers with optional subsequent frequency conversion to cover multiple wavelengths

Femtosecond Fiber Laser 1040 nm & 520 nm

SPECIFICATIONS	ORANGE	ORANGE HIGH POWER	ORANGE HIGH POWER 10
Center Wavelength	1040 nm \pm 10 nm	1040 nm \pm 10 nm	1040 nm \pm 10 nm
Average Power	>100 mW	>1 W	>10 W
Pulse Energy	>1 nJ	>10 nJ	>100 nJ
Pulse Width	<150 fs	<150 fs	<150 fs
Repetition Rate	100 MHz (50-250 MHz with VARIO)*	100 MHz (50-250 MHz with VARIO)*	100 MHz (50-250 MHz with VARIO)*
Output Port	free space	free space	free space
Auxiliary Output Port	optional	optional	optional
Additional Fiber-Coupled Seed Port	1 (up to 4 with MULTIBRANCH)	1 (up to 4 with MULTIBRANCH)	1 (up to 4 with MULTIBRANCH)
Polarization	linear, p-polarized	linear, p-polarized	linear, p-polarized
Beam Height	75 mm	75 mm	75 mm

WITH OPTION CHIRPED PULSES

Pulse Width	1-4 ps	30-50 ps	30-50 ps
Output Port	fiber-coupled (FC/APC)	fiber-coupled (FC/APC)	fiber-coupled (FC/APC)
Polarization	linear, PM 980 fiber	linear, PM 980 fiber	linear, PM 980 fiber

*Please inquire for your specific combinations of average power, pulse duration and repetition rate.

REQUIREMENTS

Operating Voltage	100/115/230 VAC		
Frequency	50 to 60 Hz		
Cooling Requirements	no water cooling is required		
Laser Head Stabilization	actively temperature stabilized		
Operating Temperature	22 °C \pm 5 °C		
Laser Head Dimensions	400 x 120 x 140 mm ³	400 x 414 x 140 mm ³	550 x 414 x 140 mm ³
Laser Head Weight	9 kg	23 kg	36 kg
Control Unit Dimensions	449 x 435 x 132 mm ³	449 x 435 x 132 mm ³	449 x 435 x 132 mm ³
Control Unit Weight	11 kg	11 kg	17 kg
Warm-Up Time	<60 s		

ORDERING INFORMATION

Product Code	orange	orange HIGH POWER	orange HIGH POWER 10
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Please call for pricing. Specifications are subject to change without notice. Custom modifications are available, please inquire.

