

C-Fiber 780

Femtosecond Fiber Laser 780 nm

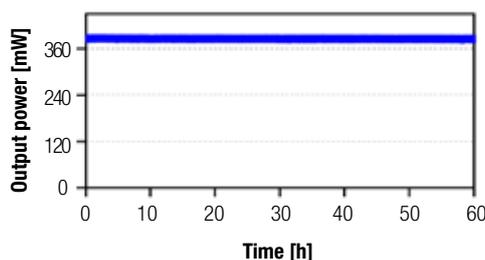


Menlo Systems' fiber-based femtosecond laser sources integrate the latest achievements in fiber technology into easy-to-use products. Menlo Systems' unique figure 9[®] design results in reproducible and long-term stable operation. It is based on the well-established nonlinear optical loop mirror (NOLM) mode locking mechanism. Both oscillator and amplifier use polarization maintaining (PM) fiber components only, ensuring excellent stability and low-noise operation. The subsequent second harmonic generation for the 780 nm 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

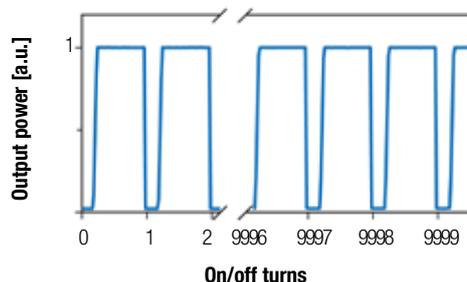
Amplitude noise

< 0.5% rms (over 24h)



Reproducibility

Identical and consistent laser performance



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KEY SPECIFICATIONS

- Wavelength 780 nm
- Output Power >180 mW
- Pulse Length <80 fs
- Auxiliary Output at 1560 nm
- Repetition Rate 50-250 MHz

APPLICATIONS

- Amplifier Seeding
- THz Generation & THz Physics
- Ultrafast Spectroscopy
- Multi-Photon Excitation
- 2-Photon Polymerization and 3D Printing

FEATURES

- High Stability
- Low Amplitude and Phase Noise
- All-PM Solution
- Single Mode-Lock State
- figure 9[®] Technology
- Laser output in less than 60 Seconds after Pressing On-Button
- Dual color output (780nm/1560nm)

OPTIONS

- **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
- **FEMTOSCALE**
Additional Compression Unit
Compression of second harmonic output pulse length to <80 fs

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SPECIFICATIONS	C-FIBER 780	C-FIBER 780 HIGH POWER
Center Wavelength	780 nm \pm 10 nm	780 nm \pm 10 nm
Average Power	>100 mW	>180 mW
Pulse Energy	>1.0 nJ	>1.8 nJ
Pulse Width	<120 fs (<80 fs with FEMTOSCALE)*	<120 fs (<80 fs with FEMTOSCALE)*
Repetition Rate	100 MHz (50-250 MHz with VARIO)**	100 MHz (50-250 MHz with VARIO)**
Repetition Rate Instability	<1 ppm over 90 hours at constant temperature	<1 ppm over 90 hours at constant temperature
Timing Jitter	<2 fs [rms, 10 kHz.. 10 MHz]	<2 fs [rms, 10 kHz.. 10 MHz]
Output Port	free space	free space
Auxiliary Output Port***	free space, 1560 nm, >200 mW	free space, 1560 nm, >350 mW
Additional Fiber-Coupled Seed Port	1 (up to 4 with MULTIBRANCH)	1 (up to 4 with MULTIBRANCH)
Polarization	linear, s-polarized	linear, s-polarized
Beam Height	75 mm	75 mm

*Compressor unit integrated in laser head module. Transmission > 90%.**Please inquire for your specific combinations of average power, pulse duration and repetition rate. *** User can switch between 780 nm and 1560 nm port (arbitrary splitting ratios possible).

REQUIREMENTS

Operating Voltage	100/115/230 VAC	100/115/230 VAC
Frequency	50 to 60 Hz	50 to 60 Hz
Power Consumption	120 VA	120 VA
Cooling Requirements	no water cooling is required	no water cooling is required
Laser Head Stabilization	actively temperature stabilized	actively temperature stabilized
Operating Temperature	15 °C - 35 °C	15 °C - 35 °C
Laser Head Dimensions/Weight	415 x 350 x 140 mm ³ / 20 kg	415 x 350 x 140 mm ³ / 20 kg
Control Unit Dimensions/Weight	448 x 132 x 437 mm ³ / 10 kg	448 x 132 x 437 mm ³ / 12 kg
Warm-Up Time	<60 s	<60 s

ORDERING INFORMATION

Product Code	C-Fiber 780	C-Fiber 780 HIGH POWER
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Please call for pricing. Specifications are subject to change without notice. Custom modifications are available, please inquire.

MenloSystems



Invisible laser radiation
avoid exposure to beam
Class 3B laser

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



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