

# C-Fiber 780

## Femtosecond Fiber Laser 780 nm

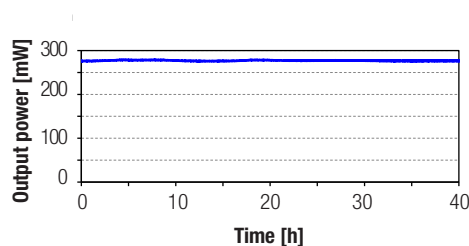


Menlo Systems' fiber-based femtosecond laser sources integrate the latest achievements in fiber technology into easy-to-use products. Menlo Systems' unique figure 9<sup>®</sup> design results in reproducible and long-term stable operation. It is based on the well-established Nonlinear Amplifying Loop Mirror (NALM) mode locking mechanism. Both oscillator and amplifier use polarization maintaining (PM) fiber components only, ensuring excellent stability and low-noise operation. 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. Complete synchronization solution is available with laser and synchronization electronics. All components from one supplier with full automation guarantees hands off operation and more time for your experiments.

### PERFORMANCE DATA

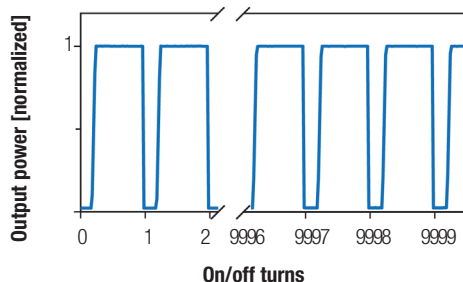
#### Amplitude noise

< 0.5% rms (over 24h)



#### Reproducibility

Identical and consistent laser performance



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### KEY SPECIFICATIONS

- Wavelength 780 nm
- Output Power >250 mW
- Pulse Length <70 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
- Menlo figure 9<sup>®</sup> Technology
- Dual color output (780nm/1560nm)

### OPTIONS

- **SYNC100**  
**Repetition Rate Synchronization**  
Tunable cavity length by high-bandwidth piezo-controlled synchronization
- **RRE-SYNCR0**  
**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 <70 fs

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## Femtosecond Fiber Laser 780 nm

<b>SPECIFICATIONS</b>	<b>C-FIBER 780</b>	<b>C-FIBER 780 HIGH POWER</b>
Center Wavelength	780 nm ± 10 nm	780 nm ± 10 nm
Average Power	>100 mW	>250 mW
Pulse Energy	>1.0 nJ	>2.5 nJ
Pulse Width	<100 fs (<70 fs with FEMTOSCALE)*	
Repetition Rate	100 MHz (50-250 MHz with VARIO)**	
Repetition Rate Instability	<1 ppm over 20 hours at constant temperature	
Timing Jitter	<2 fs [rms, 10 kHz.. 10 MHz]	
Output Port	free space	
Auxiliary Output Port***	free space, 1560 nm, >250 mW	free space, 1560 nm, >500 mW
Additional Fiber-Coupled Seed Port	1 (up to 4 with MULTIBRANCH)	
Polarization	linear, s-polarized	
Beam Height	75 mm	

\*Compressor unit integrated in laser head module. \*\*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).

<b>REQUIREMENTS</b>	<b>C-FIBER 780</b>	<b>C-FIBER 780 HIGH POWER</b>
Operating Voltage	100/115/230 VAC	
Frequency	50 to 60 Hz	
Power Consumption	120 VA	
Cooling Requirements	no water cooling is required	
Laser Head Stabilization	actively temperature stabilized	
Operating Temperature	15 °C - 35 °C	
Laser Head Dimensions/Weight	415 x 350 x 110 mm <sup>3</sup> / 18 kg	415 x 350 x 140 mm <sup>3</sup> / 20 kg
Control Unit Dimensions/Weight	448 x 132 x 437 mm <sup>3</sup> / 10 kg	448 x 132 x 437 mm <sup>3</sup> / 12 kg
Warm-Up Time	<60 s	

### ORDERING INFORMATION

<b>Product Code</b>	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.

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Invisible laser radiation  
avoid exposure to beam  
Class 3B laser

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