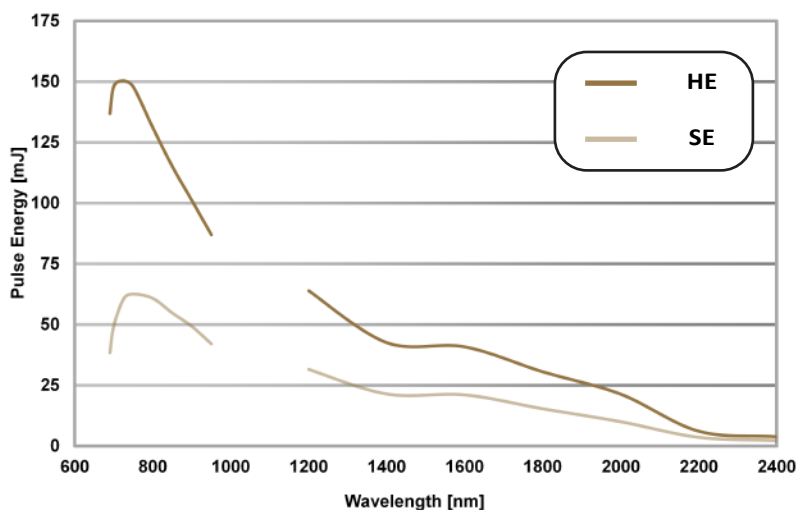


PhocusTM BENCHTOP

Based on the Ring-CavityTM optical parametric oscillator (OPO) technology, the PhocusTM BENCHTOP represents the optimal light source for photoacoustic imaging applications that require high pulse energies and NIR wavelengths for deep penetration of biological tissue. High damage thresholds combined with minimal maintenance and turn-key operation reduce system down-time and allow ease of operation. A customizable, safety-interlocked fiber bundle delivers light from the system to the instrumentation and prevents system operation without fiber attachment. Motorized tuning, motorized harmonics and fiber bundle delivery provide a completely, hands-free tunable laser system.



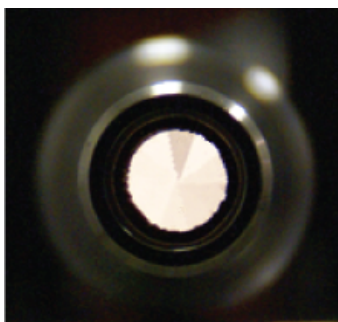
All-in-one design integrates pump laser, OPO, harmonics, optics and control electronics



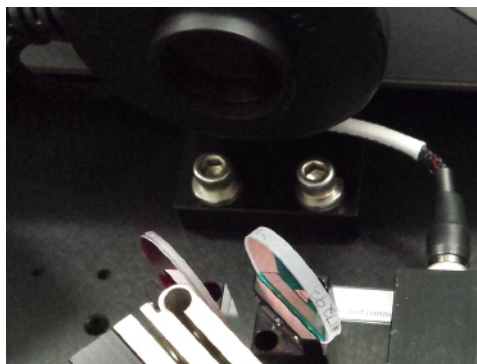
Unique, Ring-CavityTM OPO design increases the OPO damage threshold while maintaining high efficiency in order to deliver short, nanosecond pulses.



Three interlocked ports are included for access to OPO, 532 and 1064 beams.



System includes a fiber bundle for easy, safe access to all beams.



Built in EnergymeterTM monitors OPO pulse energy in real-time and provides feed-back for harmonics auto-optimization and logs pulse energy for data normalization.

Specifications

	Phocus™ SE BENCHTOP	Phocus™ HE BENCHTOP	Notes
Wavelength Range (nm)	690 - 950 & 1200 - 2400		motorized auto range selection
Peak Pulse Energy (mJ)	60	150	see tuning curve nominal
Peak Efficiency (%)	> 35	> 40	peak OPO energy ÷ pump energy
Pulse-Pulse Stability (% RMS)	< 2.0		measured at 750 nm (1000 pulses)
Spectral Linewidth (cm ⁻¹)	30 - 80		theoretical
Fiber Bundle Transmission (%)	> 70		690 - 950 nm energy values before fiber transmission
Pulse Length (ns)	5		FWHM ± 2 ns nominal
Repetition Rate (Hz)	20	10	divide-by-N lower repetition rates
Residual 532 Pump Access (mJ)	20 - 40	70 - 100	varies based on OPO wavelength

Features

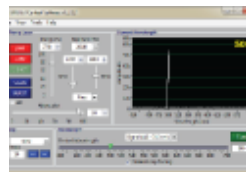
Integrated Pump Laser	Light and compact with quick connect cables and 100 million pulse flashlamp lifetime
Residual Pump Beam Access	Optical hardware to redirect residual 532/1064 beams for experimental use, fiber bundle access only
Harmonics	Motorized phase matching, temperature-controlled, hermetically sealed
Alignment Verification™	Hardware provided to verify system alignment after movement
External Triggering	Flashlamp and Q-switch IN/OUT, TTL, BNC connectors
Computer Control	All laser and OPO functions, SCAN/BURST modes
Energymeter™	Real-time pulse energy monitoring, logging for data normalization and harmonics auto-optimization
Software Development Kit	Integration of system functions into third-party programming environments

Options



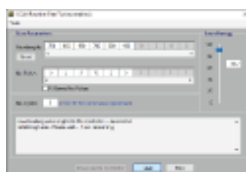
Motorized Variable Attenuator

Internal PC-controlled optical attenuator to vary the OPO pulse energy, removeable



Wavemeter™

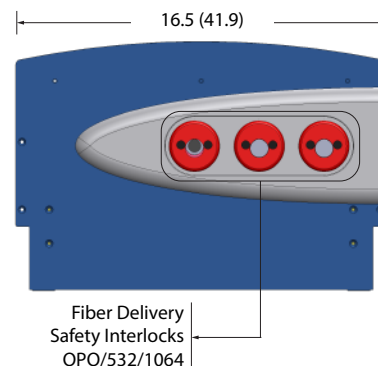
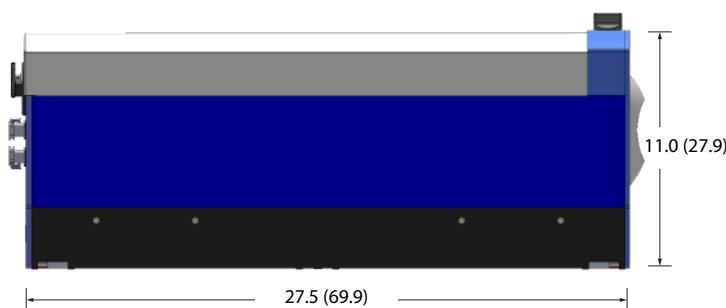
Real-time wavelength monitoring and Closed-Loop Tuning™



Fast Tuning™

Wavelength can be tuned to any value within 690 - 950 or 1200 - 2400 nm at every pulse

Dimensions



OPO Laser Head
OPO Control Electronics
Pump Laser Power Supply

100 lbs (45.4 kg)
integrated | universal line voltage
20 (50.7) x 11.1 (28.3) x 20.2 (51.3) | 59.5 lbs (27 kg)
universal line voltage | closed-cycle water-cooled

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All dimensions approximate in inches (centimeters).

All specifications are subject to change due to ongoing product improvements.

