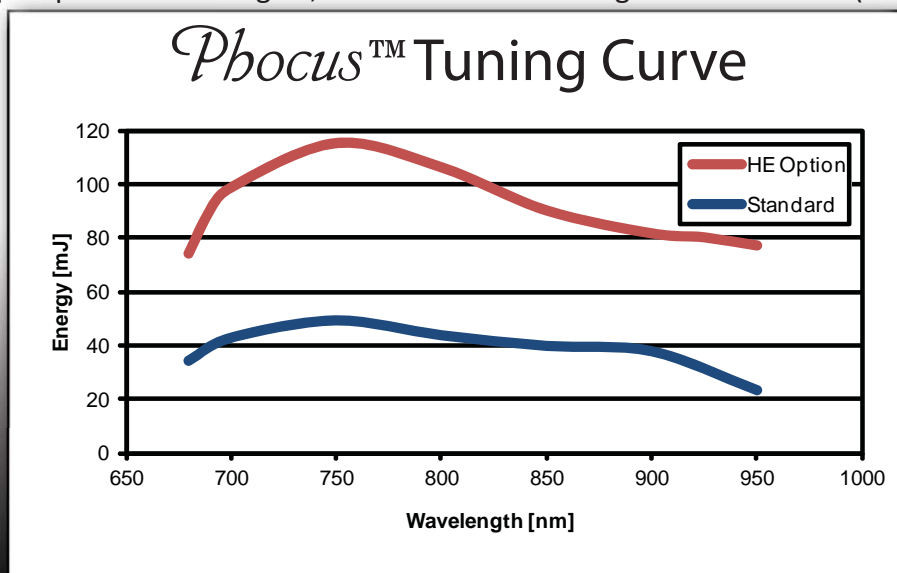


# Phocus™

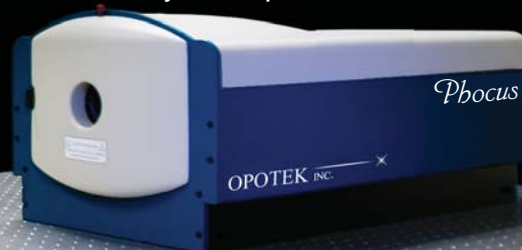
The *Phocus*™ is an integrated, turn-key tunable laser system that is **tailored for Photoacoustic Imaging**. The system utilizes OPOTEK's patented\* optical parametric oscillator (OPO) technology, which generates a **high energy, short pulse beam in the NIR**. All the system components (pump laser, OPO, control electronics, etc.) are mounted on a **single optical bench**. The system is **very compact** (13" x 26" footprint) and can be **integrated into a cart** for moving the system without loss of alignment. The OPO is a **robust ring oscillator** design that has a **high damage threshold** and requires little to no maintenance which **minimize downtime** for mission critical applications. All the system functions are accessible from user-friendly software which can be operated from any PC via a single USB port. A **software development kit (SDK)** is available for integrating system functions into end-user software. A **number of options** are available such as cart integration, fiber delivery, access to pump laser wavelengths, and real-time wavelength measurement (see reverse side).



Tuning curve represents standard and HE configuration. Performance may vary depending on other installed options.

## Features

- All-In-One design
- High energy, short pulse in the NIR
- Software development kit
- Can be integrated into a cart
- Little to no maintenance
- User-friendly computer control





## Pump Laser Specifications

|                       |                           |   |
|-----------------------|---------------------------|---|
| Pump Laser            | Nd:YAG, Q-switched        | Flashlamp pumped                          |
| Pump Wavelength       | 532 nm                    |   |
| Pulse Repetition Rate | 10 Hz                     | Computer selectable lower repetition rate |
| Pulse Length          | 5 ns                      | Nominal                                   |
| Beam Diameter         | 6 (9)* mm                 | Nominal                                   |
| External Trigger      | Flashlamp and/or Q-Switch |   |

## OPO Parameters

|                         |                             |  |
|-------------------------|-----------------------------|--|
| Wavelength Tuning Range | 680 - 950 nm                | Continuous tuning                      |
| Peak OPO Energy         | 50 (120)* mJ                | See tuning curve                       |
| Beam Divergence         | < 10 mrad                   | FWHM, circular beam                    |
| Polarization            | Horizontal                  |  |
| Computer Control        | All laser and OPO functions | ON, OFF, Power, Rep-Rate, Tuning, Scan |

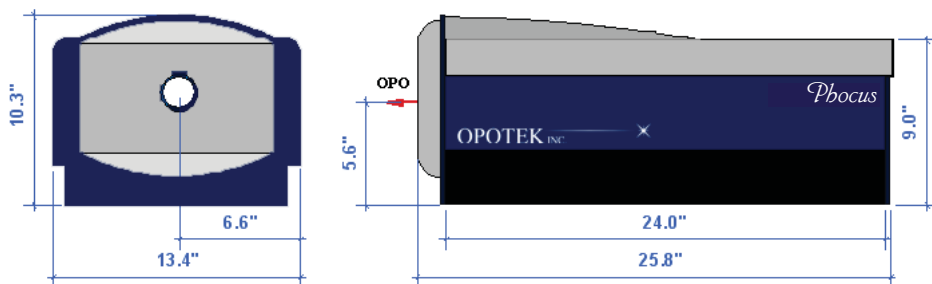
\* Data in ( ) refers to system with -HE option, which incorporates a high energy pump laser.

| Options                          | Option Code | Description  |
|----------------------------------|-------------|--|
| Access to Pump Laser Wavelengths | -1X/2X      | Access to 1064 nm, 532 nm  |
| High Repetition Rate             | -20Hz       | 20 Hz pump laser; OPO energy 10-15% lower (standard system only) |
| High Energy Pump Laser           | -HE         | Greater OPO energy using higher energy pump laser                |
| Access to Idler Wavelengths      | -ID         | Access to 1200 - 1700 nm (standard), 1200 - 2400 nm (HE option)  |
| Motorized Variable Attenuator    | -MVA        | Attenuate OPO output from 0 - 100% via computer                  |
| Motorized Harmonics              | -MH         | Control harmonics via computer software                          |
| Cart Integration                 | -CART       | All system components integrated into a mobile cart              |
| Fiber Delivery                   | -FD         | Bundle with single or multiple outputs                           |
| Wavemeter                        | -WM         | Real-time wavelength measurement, Closed-loop tuning             |
| Harmonics Auto-Optimization**    | -HAO        | Automated harmonic optimization                                  |

\*\* Requires -MH and -WM options

## Laser Head Dimensions

Weight: 65-80 lbs (depending on options added)



## Power Supply

|             |                             |
|-------------|-----------------------------|
| Dimensions  | 23" (H) x 13" (W) x 23" (L) |
| Weight      | 150 lbs                     |
| Voltage     | Single phase, 100-240 V     |
| Input Power | < 1.1 kW                    |
| Cooling     | Closed-cycle water cooled   |

