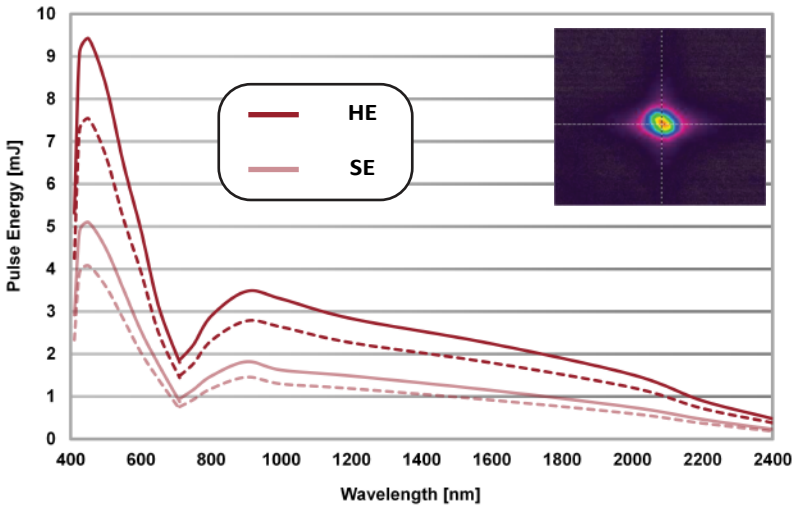
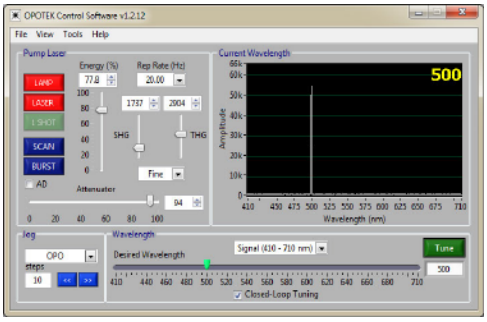
Opolette™ 355

The *Opolette*™ tunable laser series utilizes optical parametric oscillator (OPO) technology to generate wavelengths over a broad range in the UV, VIS and IR. Designed for portability, the entire laserhead fits into a 7x12" footprint and ships completely sealed to protect optical components from the environment. Requiring no installation, the system includes verification hardware to check alignment after shipping or relocation. All tunable beams exit the system from the same port resulting in one beam path to the end-user's application. Wavelength tuning is motorized and computer controlled.

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

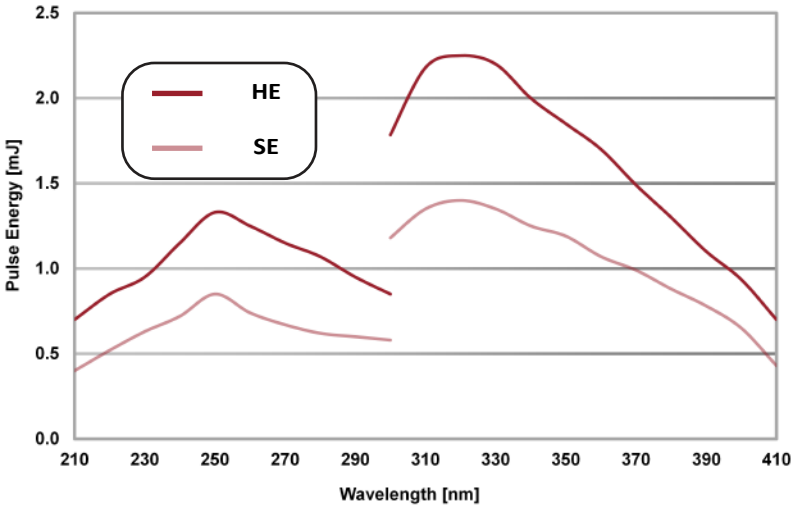


Low divergence, hermetically sealed Arrow™ OPO Cavity (dotted curves represent transmission after UV tuning crystals). Typical far field beam profile at 450 nm shown in insert. Tuning curves represent nominal values.



Built in Wavemeter™ monitors wavelength in real-time and provides feed-back for harmonics auto-optimization and Closed-Loop Tuning™.

System includes access to residual 355/532/1064 pump laser beam.



Extend the tuning range with UV (210-410 nm) tuning and One-Port-One Path™ separation that maintain one optical path for all tunable beams. Tuning curves represent nominal values.

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OPOTEK LLC
TUNABLE LASER SYSTEMS

www.opotek.com

Specifications

	Opolette™ SE 355 LD	*Opolette*™ HE 355 LD	Notes
Wavelength Range (nm)	410 - 2400		motorized | auto range selection
Peak Pulse Energy (mJ)	5.1	9.4	see tuning curve | nominal
Peak Efficiency (%)	> 25	> 30	peak OPO energy ÷ pump energy
Pulse-Pulse Stability (% RMS)	< 2.5	< 2.0	measured at 450 nm (1000 pulses)
Spectral Linewidth (cm^{-1})	4 - 6		theoretical
Linear Polariation	Horizontal : Vertical		signal : Idler
Beam Divergence (mrad)	< 1.5		FWHM | signal
Pulse Length (ns)	5		FWHM | ± 2 ns | nominal
Repetition Rate (Hz)	20		divide-by-N lower repetition rates
Beam Diameter (mm)	3	4	near-field
Residual 355 Pump Access (mJ)	7 - 11	15 - 20	varies based on OPO wavelength

Features

Integrated Pump Laser	Light and compact with quick connect cables and 50 million pulse flashlamp lifetime
Residual Pump Beam Access	Optical hardware to redirect residual 355/532/1064 beams for experimental use
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
Wavemeter™	Real-time wavelength monitoring, Closed-Loop Tuning™ and harmonics auto-optimization
Software Development Kit	Integration of system functions into third-party programming environments

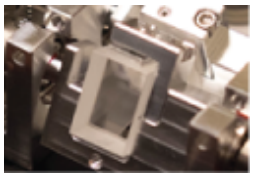
Options

Motorized Variable Attenuator

External PC-controlled optical attenuator to vary the OPO pulse energy, removeable
(410-2400 nm only)

Fiber Delivery

1 mm diameter, High Power SMA fiber (0.22 NA), coupling lens, mounting hardware
(300 - 2400 nm only)



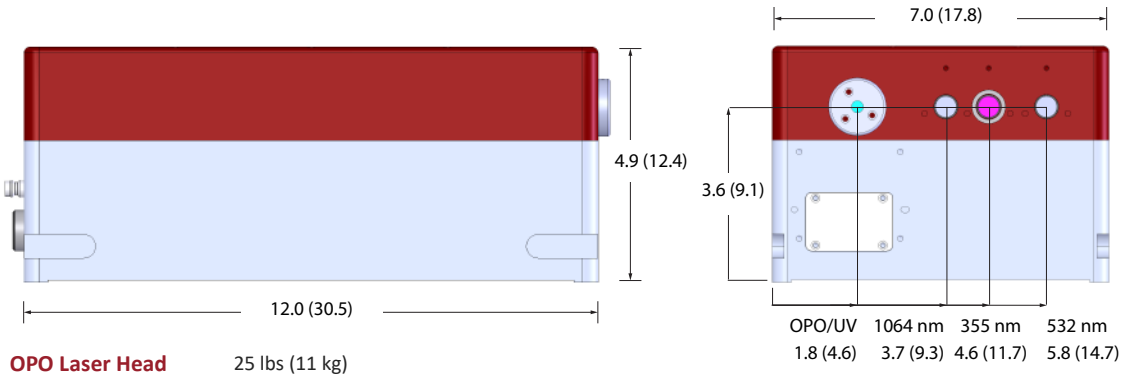
UV Tuning

UV Tuning (210-410 nm) with One-Port-One-Path™ wavelength separation, hermetically sealed

Protective Hard Case

Two protective hard cases with custom foam padding in place of standard wooden crate

Dimensions



OPO Laser Head	25 lbs (11 kg)
OPO Control Electronics	11.5 (29.2) x 10.3 (26.2) x 3.8 (9.7) | 5 lbs (2.3 kg) | universal line voltage
Pump Laser Power Supply	17.2 (43.5) x 5.3 (13.3) x 14.2 (36.0) | 31 lbs (14 kg) universal line voltage | closed-cycle water-cooled

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