

HorizonTM

Fully Integrated OPO

The Horizon mid-band OPO offers unmatched performance. Its intelligently integrated optical design delivers the highest output powers available over an extensive tuning range (192-2750nm). Fully automated with precision scanning for true hands-free operation, Horizon is a robust system delivering optimal performance – all day, every day.

With the highest conversion efficiency available from any mid-band OPO, Horizon gives you unprecedented advantages: outstanding beam quality, excellent beam pointing stability and the option for wavelength access extended into the vacuum ultraviolet. Ease of use and convenience are also key notions for this OPO as it is an all encompassing optical design integrated into a single monolithic platform.

With crystals and Pellin Broca prisms mounted directly to ultra-high resolution stepper motors, Horizon has been engineered for optimal stability and tuning reproducibility at all wavelengths.

Applications

Science:

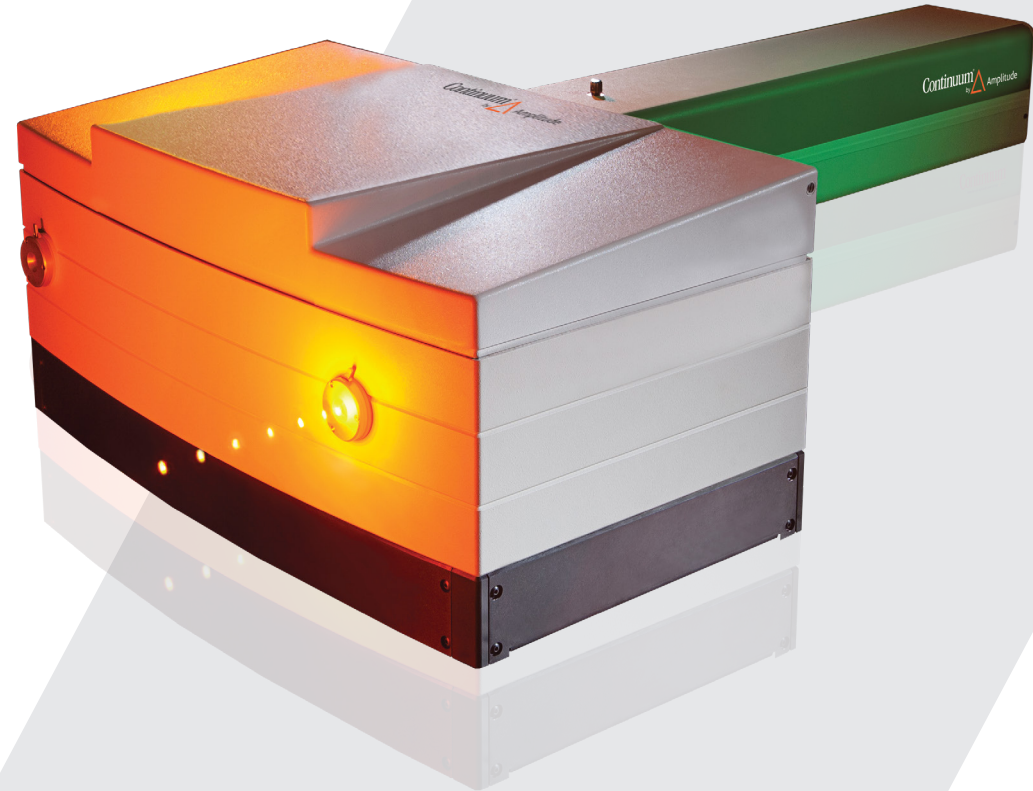
> Spectroscopy
and Imaging

Medical:

> Photoacoustic
imaging

Key Features

- > Extended tunability from 192 nm to 2750 nm
- > The highest conversion efficiency in its class
- > Linewidths down to $< 3 \text{ cm}^{-1}$
- > Optional residual 532 nm access, with excellent beam quality and low divergence in both axes
- > Fully automated for precision scanning
- > Coated and temperature stabilized crystals enclosed in a secure housing for optimal lifetime and reliability



Specifications

SL I, II, EX SL I-20 PL 8000 PL 9010 PL 9020 PL 9030

Repetition Rate (Hz)	10	20	10	20	30
Pulsewidth (nsec)	3-5		3-7		
Pointing Stability (μrad)	<±100				
Linewidth (cm ⁻¹)					
Signal	3-7			3-9	
UV/Doubling/Mixing ¹	< 10			< 13	
Energy Stability (% , 99% of shots) ²	<±10				
Divergence (mrad, FWHM)	<-----<2 (both axes) ----->				
Beam Diameter (mm, near field)	4-7			4-9	
Beam Roundness (% , near field) ²	> 85				
Polarization (%)					
Signal Horizontal	> 99				
Idler Horizontal	> 99				

¹Theoretical value based on signal linewidth

²Specified at signal wavelength (425 nm)

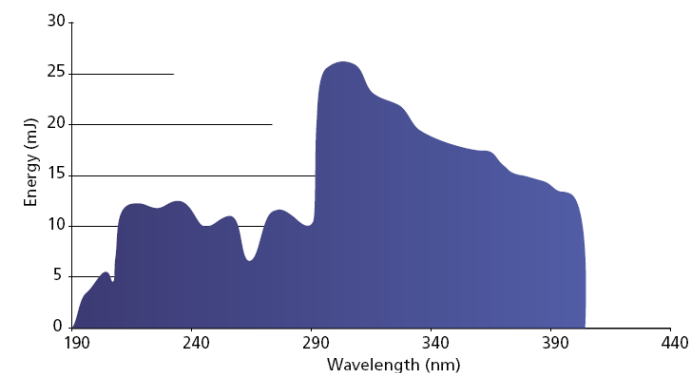
All specifications are for the signal unless otherwise noted.

As a part of our continuous improvement program, all specifications are subject to change without notice.

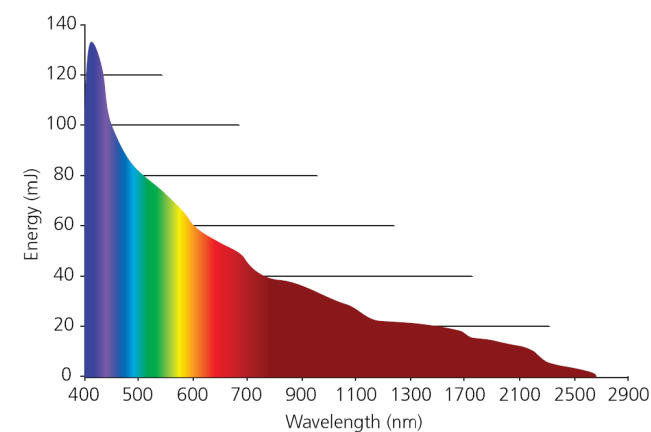
Others

Size	660.4 x 381 x 346.7 mm (26 x 15 x 13.65") H ± 12 mm/0.5"
Weight	30.8 kg (68 lbs)

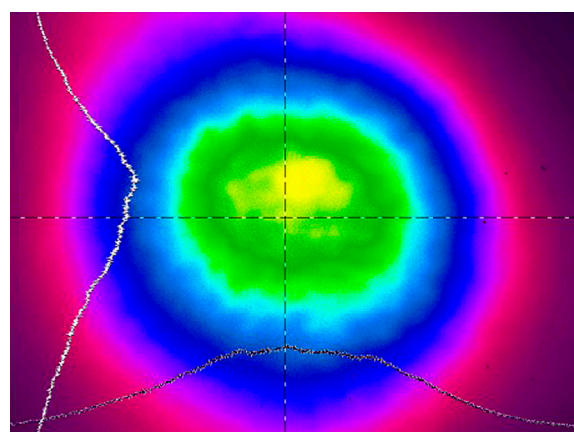
Horizon performance with PL 8000 Pump



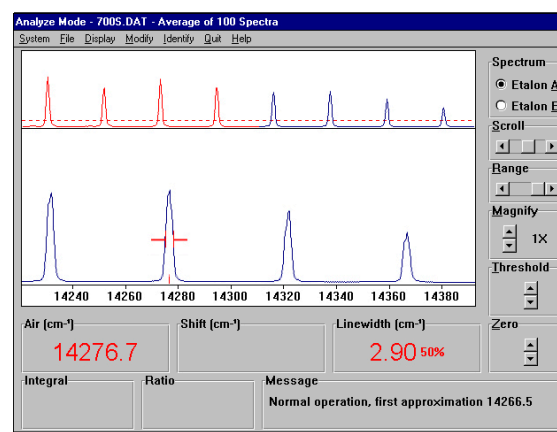
Typical UV output



Typical Signal and Idler



Horizon Signal beam quality, near field
430 nm at 1.5 m

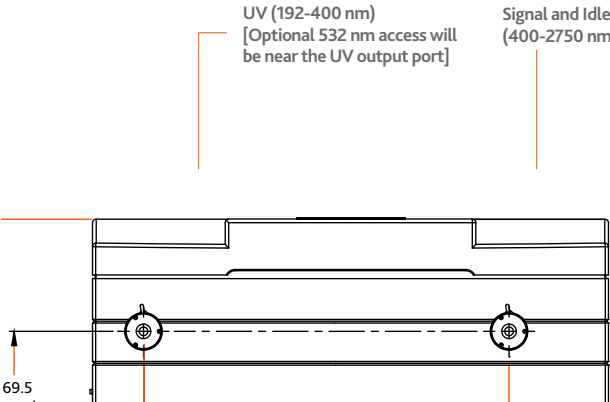


Horizon linewidth scan

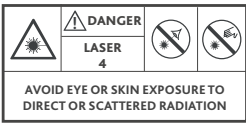
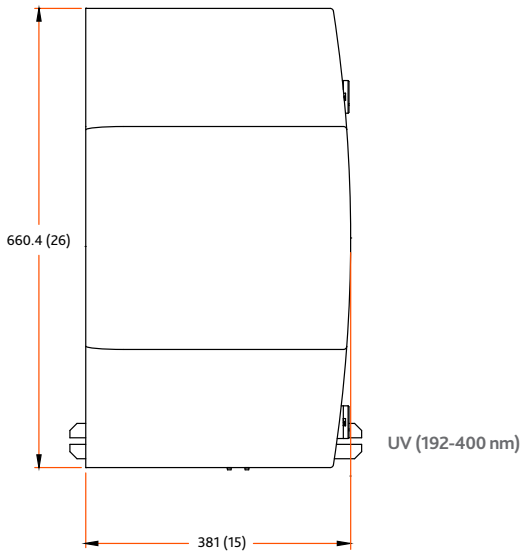
Horizon Physical Layout

All dimensions are in mm (inches).

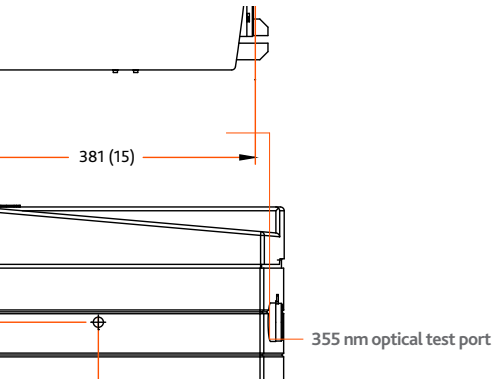
Output View



Top View

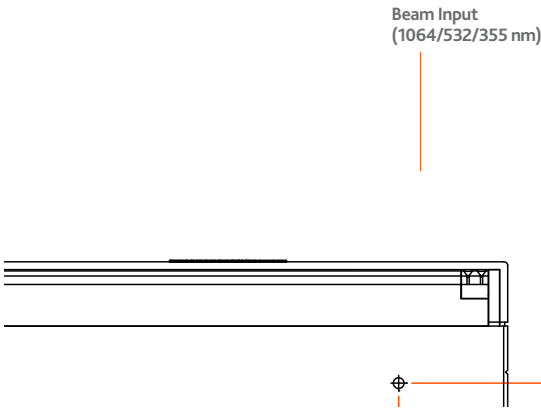


Side View



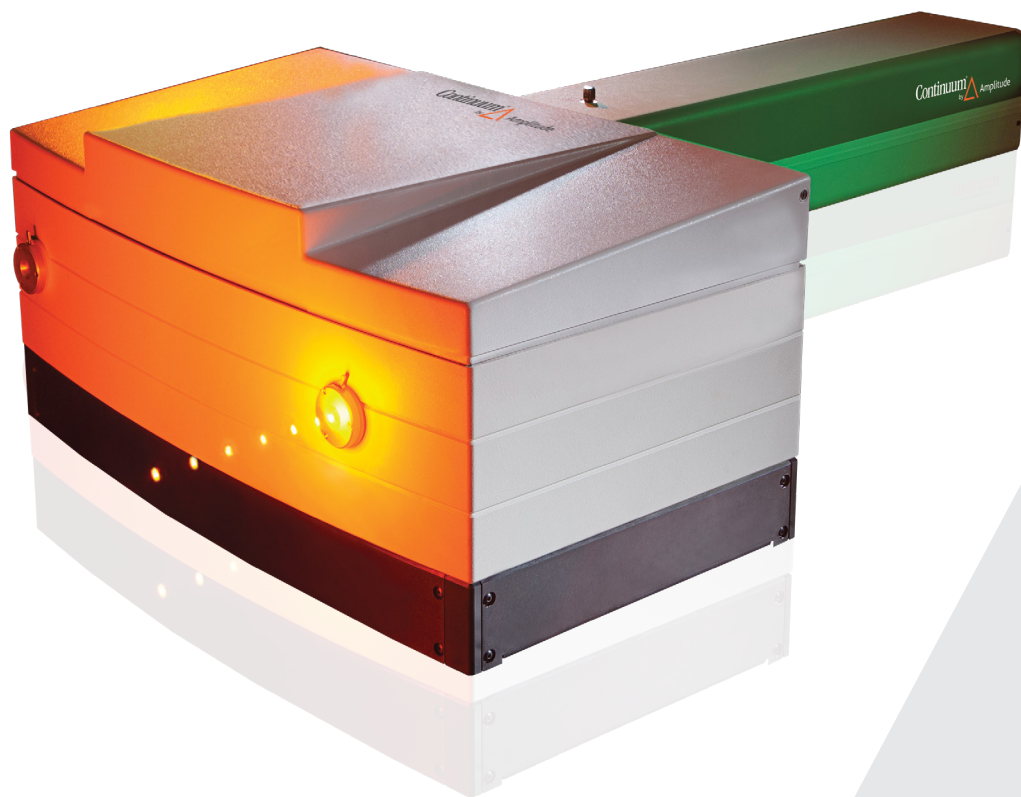
Horizon Energy Specifications

Tuning Range (nm)		400-2750	192-400
Pump Laser		Energy at Peak (mJ)	Energy at Peak (mJ)
Pump Model	OPO Pump Energy (mJ) at 355 nm		
Horizon I pumped with 200mJ or less			
SL I-10	100	30	6
SL I-20	100	20	3
SL II-10	160	50	10
Horizon II pumped with 200mJ or more			
SL EX	220	80	15
PL 8000	290	110	20
PL 9010	375	135	27
Horizon III			
PL 9020	385	110	18
PL 9030	320	95	15



Horizon™

Fully Integrated OPO



Continuum®
by  Amplitude