



Nd:YLF High-Frequency Dual-Pulse Green PIV Laser

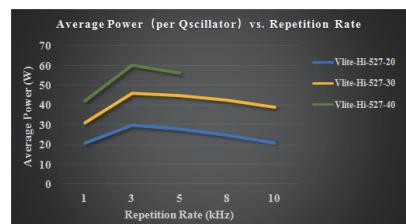
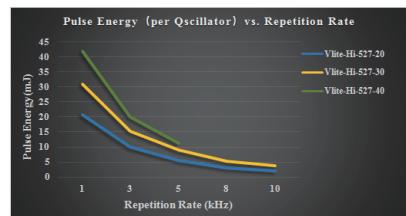
For time-resolved PIV measurements (TR-PIV) of unsteady flow fields, we offer the kHz high repetition rate Vlite-Hi-527 dual-pulse green laser.

To achieve high repetition rates and high pulse energy, the Vlite-Hi-527 laser utilizes LD-pumped Nd:YLF laser crystals, acousto-optic Q-switched technology, and intracavity frequency doubling technology. It provides highly stable pulse energy ranging from 20mJ to 60mJ @ 1kHz, with an adjustable repetition rate of 0.2kHz to 10kHz.

In terms of design, the Vlite-Hi-527 features a unique optical path design and engineered technology to ensure operational stability, with energy output stability less than 1%. As a Class IV laser, the Vlite-Hi-527 series places special emphasis on safety and electromagnetic compatibility design. It is equipped with protective shutters, built-in interlocks, flow switches, emergency stop switches, and enclosure protection switches to provide comprehensive safety for users and equipment. This series of lasers obtained CE certification in 2020.

Features

- Pulse energy: 30-70mJ
- Continuously adjustable repetition rate: 0.2kHz - 10kHz
- Pulse width: <200ns @ 1kHz
- Low jitter value, high synchronization precision
- Integrated design of laser, light arm, and optical light sheet
- High beam combining stability
- Uniform beam distribution
- Compatible with various PIV systems



Applications

- Micro PIV
- 2D/3D PIV
- Tomographic PIV
- Time Resolved PIV



Power Supply & Cooling System



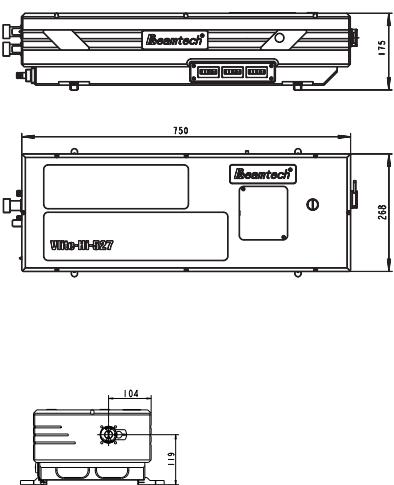
≡ Specifications

Models	Vlite-Hi-527-30	Vlite-Hi-527-40	Vlite-Hi-527-50	Vlite-Hi-527-60	Vlite-Hi-527-70
Wavelength			527nm		
Pulse Energy	2*30mJ at 1kHz	2*40mJ at 1kHz	2*50mJ at 1kHz	2*60mJ at 1kHz	2*70mJ at 1kHz
Average Power	2*30W at 1kHz	2*40W at 1kHz	2*50W at 1kHz	2*60W at 1kHz	2*70W at 1kHz
Frequency			0.2k-10kHz		
Mode			Multi-Mode		
Pulse Duration ¹	≤200ns	≤180ns	≤150ns	≤150ns	≤130ns
Beam Diameter ²			~5mm		
Energy Stability ³ (RMS)			≤1%		
Power Drift (RMS)			≤1%		
Divergence ⁴	≤6mrad	≤6mrad	≤8mrad	≤8mrad	≤8mrad
Pointing Stability(RMS)			≤20μrad		
Time Jitter ⁵ (RMS)			≤3ns		
Cooling			Chiller		
Electrical Service	Power Supply	220V-50/60Hz-10A	220V-50/60Hz-16A	220V-50/60Hz-16A x 2	220V-50/60Hz-16A x 2
	Chiller	220V-50/60Hz-16A	220V-50/60Hz-16A	220V-50/60Hz-16A x 2	220V-50/60Hz-16A x 2
Umbilical Length			3m		

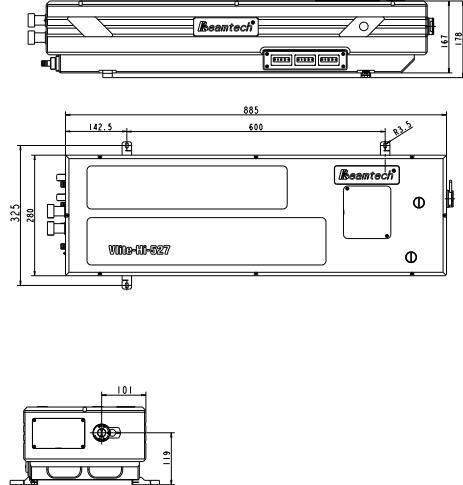
- 1. Full width half max (FWHM);
- 2. Measured at the laser output;
- 3. 100% Pulse to Pulse energy stability measured over 1 hour;

- 4. Full angle measured at $1/e^2$ of the peak;
- 5. With respect to external trigger;

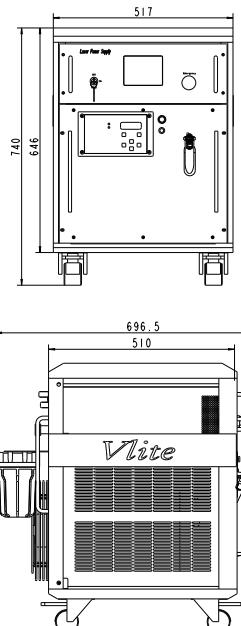
Dimensions



Vlite-Hi-527-20/30/40



Vlite-Hi-527-50/60



Power Supply & Cooling System