Vlite-Hi-527 Series lasers

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

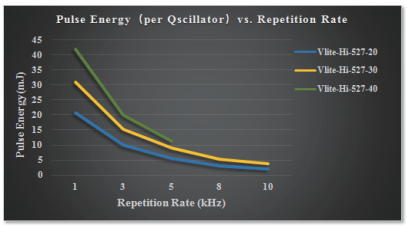
For time-resolved PIV measurements (TR-PIV) of unsteady flow fields, we offer the kHz high repetition rate Vlite-Hi-527 dual-pulse green laser.

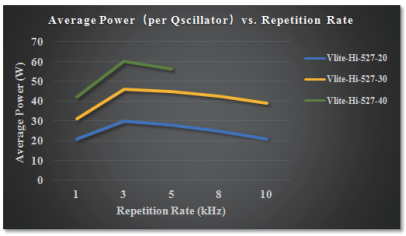
To achieve high repetition rates and high pulse energy, the Vlite-Hi-527 laser utilizes LD-pumped Nd:YLF laser crystals, acousto-optic Q-switched technology, and intracavity frequency doubling technology. It provides highly stable pulse energy ranging from 20mJ to 60mJ @ 1kHz, with an adjustable repetition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

Beamtech
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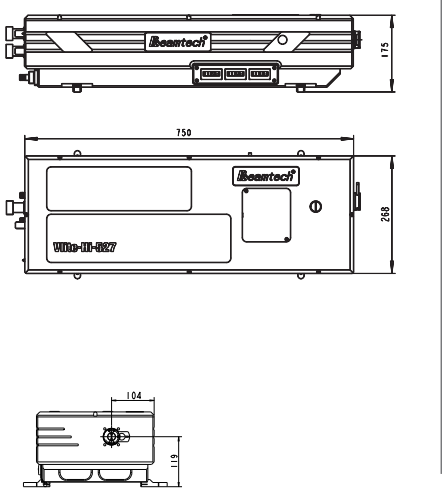
TÜVRheinland Certificated
TÜV CERT ISO9001:2015
CE

Specifications

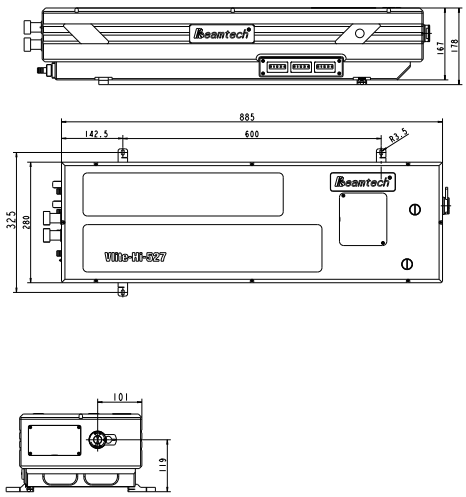
型号	Vlite-Hi-527-20	Vlite-Hi-527-30	Vlite-Hi-527-40	Vlite-Hi-527-50	Vlite-Hi-527-60
Wavelength	527nm				
Pulse Energy	⩾20mJ at 1kHz	⩾30mJ at 1kHz	⩾40mJ at 1kHz	⩾50mJ at 1kHz	⩾60mJ at 1kHz
Average Power	⩾20W at 1kHz	⩾30W at 1kHz	⩾40W at 1kHz	⩾50W at 1kHz	⩾60W at 1kHz
Frequency	0.2k-10kHz				
Mode	Multi-Mode				
Pulse Duration[1]	~200ns	⩽200ns	⩽180ns	⩽150ns	⩽150ns
Beam Diameter[2]	~5mm				
Energy Stability[3] (RMS)	⩽1%				
Power Drift (RMS)	⩽1%				
Divergence[4]	⩽5mrad	⩽6mrad	⩽6mrad	⩽8mrad	⩽8mrad
Pointing Stability(RMS)	⩽20μrad				
Time Jitter[5] (RMS)	⩽3ns				
Cooling	Chiller				
Electrical Service Power Supply	220V-50/60Hz-10A	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	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/e² of the peak;
5. With respect to external trigger;

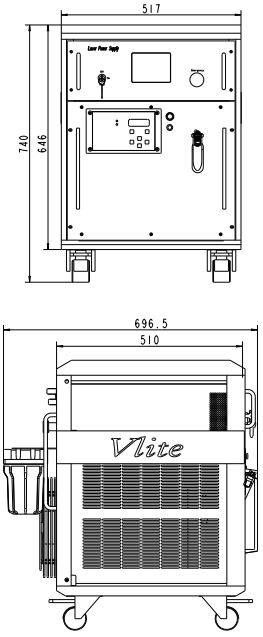
Dimensions



Vlite-Hi-527-20/30/40



Vlite-Hi-527-50/60



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