

VGEN-G Fiber Laser

HIGH PULSE REPETITION RATE WITH TUNABLE SHORT PULSE WIDTH FOR MATERIALS FINE PROCESSING

The VGEN-G Advantage

- Up to 20 W average output power (5 W in CW system)
- Up to 20 kW peak power
- 2–20 ns (tunable) pulse width
- 50–700 kHz (tunable) repetition rate
- Up to 200 μ J pulse energy
- High beam quality ($M^2 < 1.3$)
- Compatible with industry standard interfaces (RS-232 and TTL)

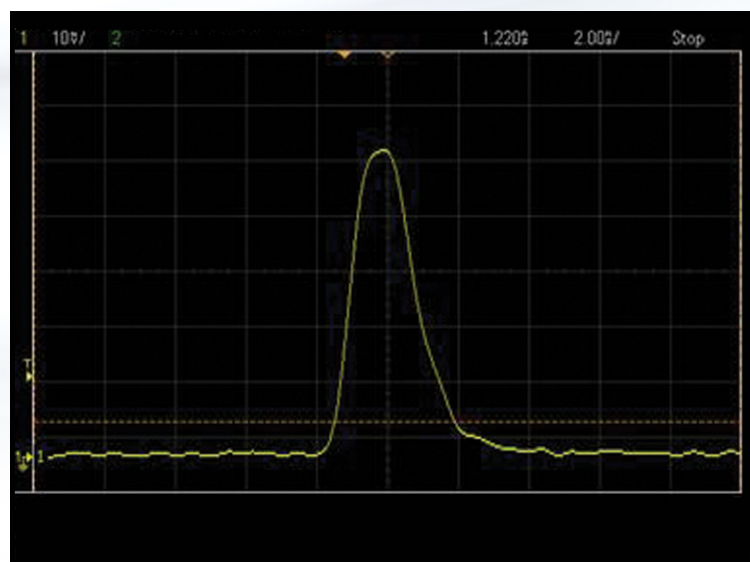
Spectra-Physics' VGEN-G and VGEN-G-C series of visible lasers (532 nm) incorporate cutting edge technology to provide top performance in such precision-intensive applications as solar cell, micromachining, silicon scribing, fine processing, thin film cutting and more.

The VGEN-G lasers are comprised of short-pulse, linearly polarized Ytterbium fiber lasers in MOPA configuration along with SHG (second harmonic generation) module, providing output power of up to 20 W. VGEN-G lasers offers a high pulse repetition rate (up to 0.7 MHz) combined with very short pulse (down to 2 ns), high pulse energy and high peak power which enable high system throughput for maximum operation efficiency. The new VGEN-G-HE lasers deliver high pulse energies over 200 μ J and high peak powers over 20 kW.

The VGEN-G-C lasers are comprised of a CW Ytterbium fiber laser configuration in conjunction with an SHG module, providing up to 5 W output power for cost-effective operation.

Housed in a robust assembly that meets industrial standards and fitted with metal armored fiber cable, the VGEN-G and VGEN-G-C deliver a high quality, near diffraction-limited output beam.

Short Pulse, 2 ns¹



1. Typically measured performance; not a guaranteed or warranted specification.

Applications

- Solar cell, silicon scribing and processing
- Marking
- Materials fine processing
- Micromachining
- Scribing
- Thin film cutting
- Gold and copper processing
- Pumping
- Medical
- Entertainment and display
- Security and defense

VGEN-G Fiber Laser

Specifications¹

	VGEN-G-10	VGEN-G-20	VGEN-G-HE-10	VGEN-G-HE-20	VGEN-G-C-5
Operational Mode	Short Pulse				CW
Wavelength	532 nm				
Average Output Power	10 W	20 W	10 W	20 W	5 W
Repetition Rate	50–700 kHz				N/A
Pulse Width	2–20 ns				N/A
Peak Power (Max)	10 kW		20 kW		N/A
Pulse Energy (Max)	100 µJ		200 µJ		N/A
Beam Pointing Stability	<±50 µrad/°C				
Power Instability (rms) ²	<3%				<1.5%
Noise (rms) ²	<2%				<1%
General Parameters					
Operational Voltage	24 VDC				
Operating Temperature	10–40°C				
Laser Dimensions	77 × 195 × 282 mm		120 × 116 × 220 mm		77 × 195 × 282 mm
Output Head Dimensions	98 × 116 × 220 mm (w/ heat sink) 77 × 116 × 220 mm (w/o heat sink)				
Weight	6 kg				
Fiber Length	300 cm (other options available)				
Output Beam Diameter	2.5 ±0.5 mm				
Output Beam Parameters	M ² <1.3				TEM ₀₀ , M ² <1.2

1. Due to our continuous improvement, all specifications are subject to change without notice.
2. After 1 hour wamup.



Optical head without heat-sink

About Spectra-Physics Tel Aviv

Spectra-Physics Tel Aviv develops, manufactures and markets high quality innovative laser systems for a wide range of industrial applications. The company's laser systems are the product of extensive experience and the cutting-edge know-how that Spectra-Physics Tel Aviv's professional team has developed over the years.

In the industrial field, the company develops and manufactures pulsed Ytterbium, Thulium, Erbium, Green and UV fiber-lasers for such applications as micromachining, fine processing and marking. Spectra-Physics Tel Aviv's short pulse versions are also implemented in LIDAR and range-finding.



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