

VYPER Series

Very High Power Excimer Lasers

Silicon Annealing

The VYPER Series lasers are multiple beam very high power excimer lasers specially designed for Excimer Laser Annealing (ELA). The high quality demand in high resolution mobile display manufacturing requires high grade low temperature poly-Silicon (LTPS) which can be created only with excimer lasers.

The lasers fit perfectly to the high power LineBeam 750 (VYPER) and LineBeam 1300 (TwinVYPER) optics.



Superior Reliability & Performance

VYPER Features:

- **Highest UV power**
- **Excellent energy stability**
- **Lowest costs per Watt UV**
- **Multiple beam system**
- **EquiSwitch synchronization**
- **Laser data acquisition**
- **Sealed and purged beam path**
- **Ethernet interface**

VYPER Options:

- **Motorized Alignment**
- **Pulse Shape Analysis**
- **Alternating Triggering**
- **ExiScope Laser Data Analysis**
- **Line Voltage Transformer**

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System Specifications

	VYPER	TwinVYPER
Wavelength (nm)	308	308
Maximum Stabilized Pulse Energy (mJ)	2000 ¹	4000 ²
Maximum Stabilized Average Power (W)	1200 ¹	2400 ²
Maximum Repetition Rate (Hz)	600	600
Sum Energy Stability (sigma, %)	≤0.45	≤0.35
Pulse Duration (FWHM, ns)	24 ±4	24 ±4
Average Beam Dimensions (FWHM, V x H, mm ²)	35 ±4 x 14.5 ±3 ³	35 ±4 x 14.5 ±3 ³
Beam Divergence (FWHM, V x H, mrad ²)	≤4.5 x 1.3 ³	≤4.5 x 1.3 ³
Dynamic Gas Lifetime (at max. stabilized energy)(mio. pulses)	100	100
Weight	4400 kg/9700 lbs.	8800 kg/19,400 lbs.
Cooling	Water, up to 2x 70 l/min. (18.5 gal./min.), 12 to 15°C	Water, up to 4x 70 l/min. (18.5 gal./min.), 12 to 15°C
Electrical	2x 39 kVA, 3-phase, 400 VAC, 50 or 60 Hz	4x 39 kVA, 3-phase, 400 VAC, 50 or 60 Hz
Dimensions (L x W x H)	2800 x 1700 x 2085 mm (110 x 66.9 x 82 in.)	(2x) 2800 x 1700 x 2085 mm (110 x 66.9 x 82 in.)

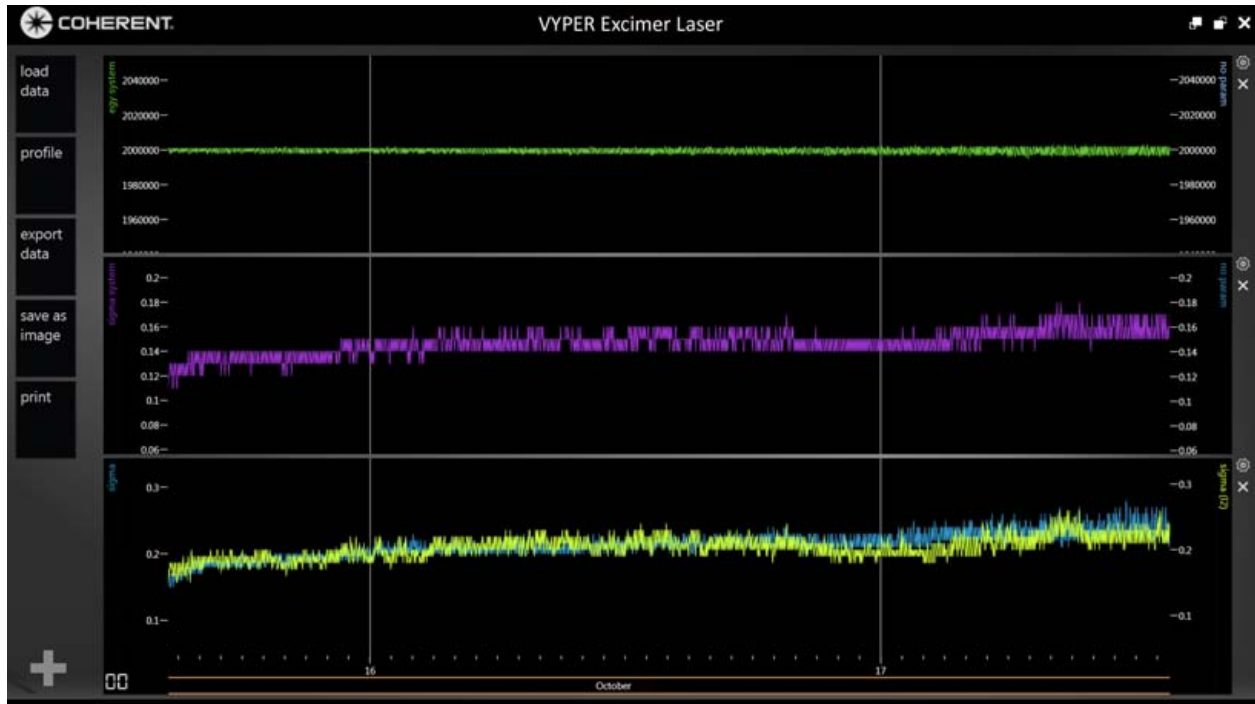
¹ Sum of two beams.

² Sum of four beams.

³ Per single beam.

ExiScope Data Analysis at a Glance

System energy, sum sigma, individual Sigma, and much more parameter can easily be analyzed by ExiScope analysis software.

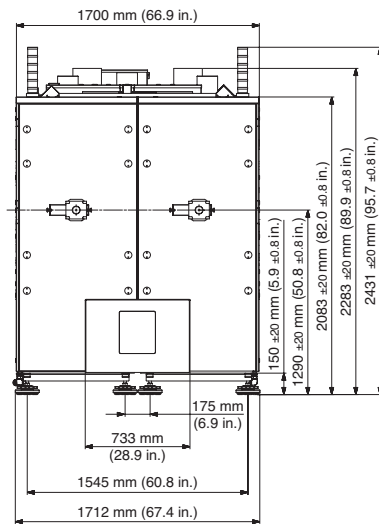


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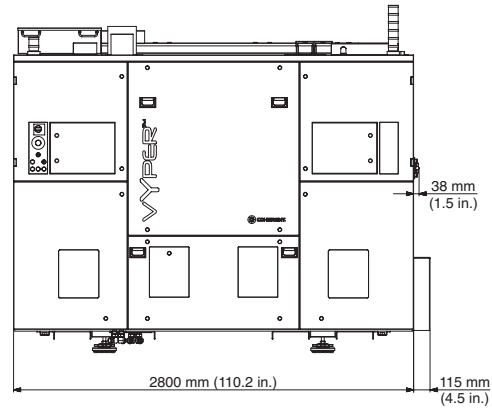
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Mechanical Specifications

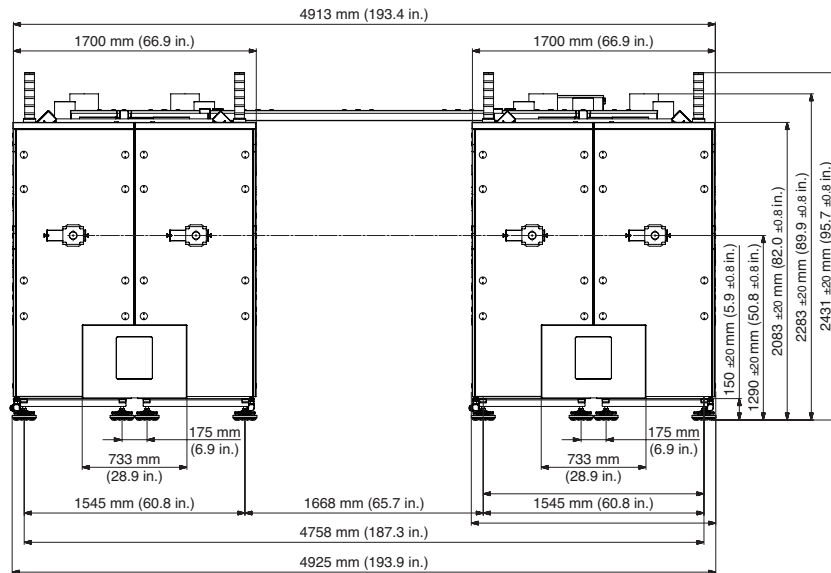
VYPER - Front View



VYPER/TwinVYPER - Left Side View



TwinVYPER - Front View



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Coherent follows a policy of continuous product improvement. Specifications are subject to change without notice.

Coherent's scientific and industrial lasers are certified to comply with the Federal Regulations (21 CFR Subchapter J) as administered by the Center for Devices and Radiological Health on all systems ordered for shipment after August 2, 1976.

Coherent offers a limited warranty for all VYPER lasers. For full details of this warranty coverage, please refer to the Service section at www.Coherent.com or contact your local Sales or Service Representative.

