LAMBDA SX

High-Power Excimer Lasers

The LAMBDA SX industrial excimer laser series provides unique high UV power to the production floor. It delivers high and stable pulse energy, and also features a number of innovative technologies for unsurpassed performance and reliability.

LAMBDA SX lasers are perfectly suited for applications ranging from micro structuring, advanced semiconductor packaging, manufacturing of High Temperature Superconductors by Pulsed Laser Deposition (PLD), Laser Lift-Off (LLO) to high power UV LIDAR. The E-Series is ideal for Excimer Laser Annealing (ELA).

Features and Benefits

- Perfect energy stability to ensure production yield
- Pulse on Demand to enable cost effective Laser Lift-Off
- Laser data acquisition to allow advanced process control
- Sealed and purged beam path for stable long term operation
- Ethernet interface for control and fast data acquisition

Applications

- Microstructuring and Drilling
- Pulsed Laser Deposition
- Surface Treatment

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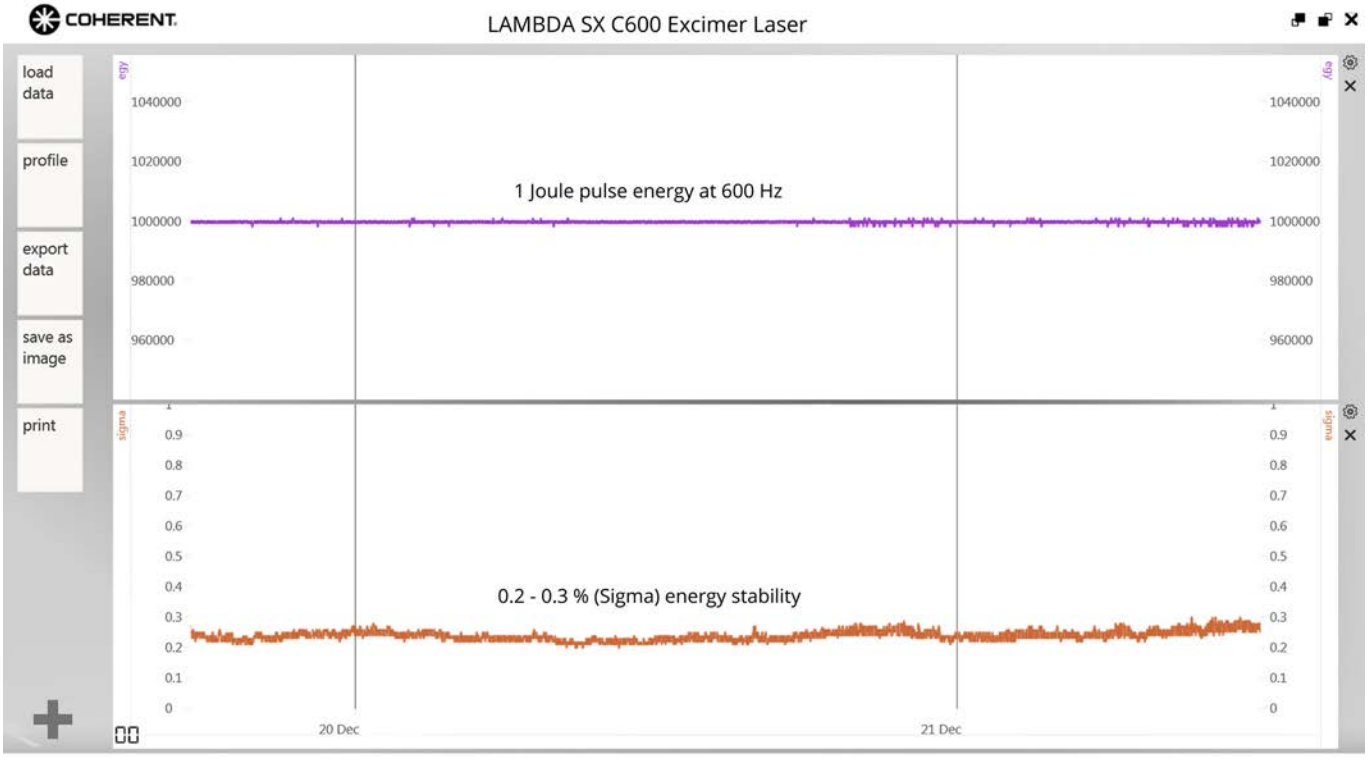
SPECIFICATIONS[1]

	LAMBDA SX	
	E500	C600
Wavelength (nm)	308	308
Maximum Stabilized Pulse Energy (mJ)	1000	1000
Maximum Stabilized Average Power (W)	500	600
Maximum Repetition Rate (Hz)	500	600
Energy Stability (sigma, %)	≤0.45	≤1
Pulse Duration (FWHM) (ns)	24 ±4	24 ±4
Beam Dimensions[2] (FWHM, V x H, mm²)	35 ±4 x 14.5 ±3	35 ±4 x 14.5 ±3
Beam Divergence (FWHM, V x H, mrad²)	≤4.5 x 1	≤4.5 x 1.5
Dynamic Gas Lifetime (at max. stabilized energy) (mio. pulses)	60	100
Weight	2200 k g/4850 lbs.	
Cooling	Water, 3 to 70 l/min. (0.8 to 18.5 gal./min.), 12 to 15°C	
Electrical	40 kVA, 3-phase, 400 VAC, 50/60 Hz	
Dimensions (L x W x H)	2800 x 850 x 2083[3] mm (110.2 x 33.3 x 82 in.)	2800 x 850 x 2083[3] mm (110.2 x 33.3 x 82 in.)

1 All specifications are subject to change without prior notice in order to provide the best product possible.
2 Beam dimensions measured at 1.0m from beam exit.
3 ±20 mm (0.8 in.).

ExiScope Data Analysis

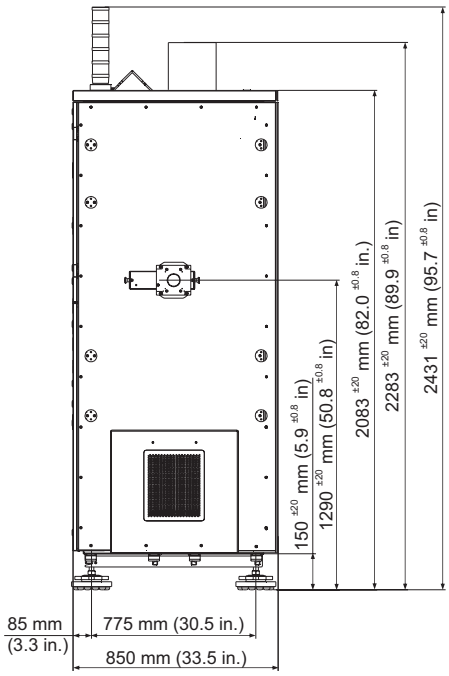
System energy, sum sigma, individual sigma, and much more parameter can be analyzed and displayed with the ExiScope software.



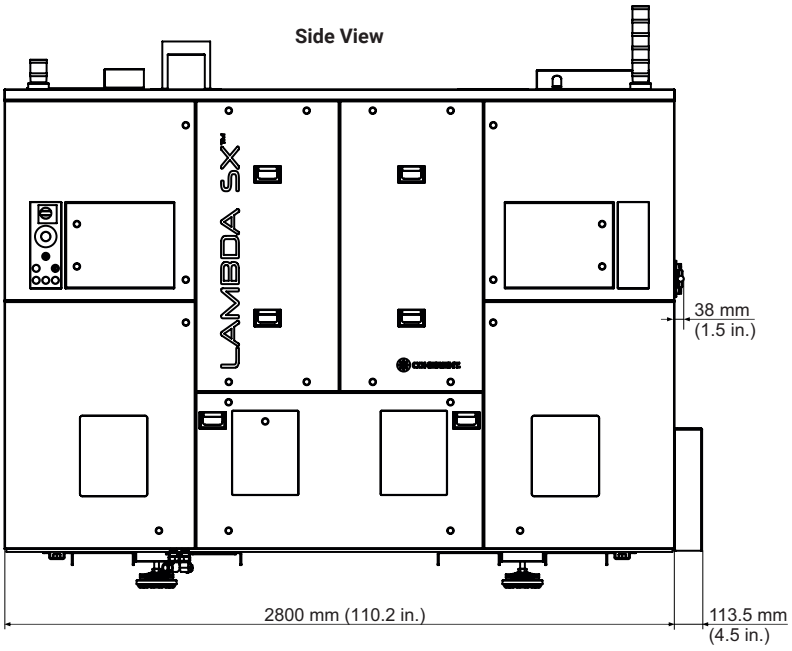
MECHANICAL SPECIFICATIONS

LAMBDA SX

Front View



Side View



COHERENT

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VISIBLE AND INVISIBLE LASER RADIATION.
AVOID EYE OR SKIN EXPOSURE TO
DIRECT OR SCATTERED RADIATION.
CLASS IV LASER RADIATION PRODUCT
PER EN/IEC 60825-1 (2014)

MAX. OUTPUT POWER: 900 W
MAX. OUTPUT ENERGY: 1.5 J/pulse
PULSE DURATION: 10 to 50 ns
WAVELENGTH: 248 to 308 nm