

LPXpro Series

High Pulse Energy Excimer Lasers

The High Pulse Energy Laser

LPXpro is a family of industrial proven excimer lasers, offered at wavelengths of 193 nm, 248 nm, 308 nm and 351 nm. The maximum output power is up to 80W at 248 nm. The LPFpro family expands wavelength range to vacuum UV with 157 nm. The beam quality, high pulse energy, short pulse length, and high peak power of LPXpro and LPFpro lasers combine to optimize UV applications.

These characteristics, plus their low cost of ownership, make LPXpro lasers suitable for a wide range of demanding, high precision processing tasks. These include drilling, pulsed laser deposition (PLD), laser direct patterning (LDP), laser lift-off (LLO) and cleaning.



Superior Reliability & Performance

LPXpro Features:

- Flexible pulse energy
- Internal burst generator
- Unmatched beam stability
- 193 nm, 248 nm, 308 nm, 351 nm operation
- Adaptable resonator configuration

LPXpro Options:

- Unstable Resonator
- Fluor and Chlorine Version

LPXpro Applications:

- PLD – Pulsed Laser Deposition
- LDP – Laser Direct Patterning
- LLO – Laser Lift-Off

LPXpro Series

High Pulse Energy Excimer Lasers

System Specifications		LPXpro 210	LPXpro 220	LPXpro 240	LPXpro 305	LPFpro 205	LPFpro 220
Wavelength ¹ (nm)							
Max. Pulse Energy (mJ) up to 10 Hz	157	–	–	–	–	50	40
	193	450	300	160	600	400	250
	248	800	550	300	1100	–	–
	308	500	300	–	700	–	–
	351	400	200	120	400	–	–
Max. Stabilized Pulse Energy (mJ) at Full Repetition Rate	157	–	–	–	–	–	–
	193	300	250	80	400	–	–
	248	700	400	160	800	–	–
	308	450	275	–	600	–	–
	351	200	130	55	300	–	–
Max. Rep. Rate (Hz)		100	200	300/400 ³	50	50	200
Max. Stabilized Avg. Power (W)	157	–	–	–	–	2.5 ³	7 ³
	193	30	50	24	20	15	40
	248	70	80	64	40	–	–
	308	45	55	–	30	–	–
	351	20	26	22	15	–	–
Energy Stability (at 5 Hz, 1 sigma, %)		≤1	≤1	≤2	≤1	≤10 ⁴	≤10 ⁴
Pulse Duration (FWHM, ns, typ.)		25	20	15	25	–	–
Beam Dimensions (V x H) (FWHM, mm ² , typ.)		12 x 24	8 x 24	8 x 22	12 x 30	10 x 24 ⁴	10 x 24 ⁴
Beam Divergence (V x H) (FWHM, mrad ² , typ.)		≤1 x 3	≤1 x 3	≤1 x 3	≤1 x 3	≤2 x 6 ⁴	≤2 x 6 ⁴
Electrical				208 or 400V, 50/60 Hz, 3-phase			
Water Cooling				≤7 l/min. (1.8 gal./min.), 15 to 20°C			
Weight							
Laser Head		400 kg (880 lbs.)			430 kg (946 lbs.)		
Power Supply		50 kg (110 lbs.)			50 kg (110 lbs.)		
Dimensions (L x W x H)							
Laser Head		1966 x 800 x 475 mm ³ (77 x 32 x 19 in. ³)					
Power Supply		750 x 460 x 185 mm ³ (30 x 18 x 7 in. ³)					

Option

Unstable Resonator

Energy 70% of stable resonator version (near field)

¹ 157 nm with LPFpro only; 193 nm, 248 nm, and 351 nm with LPXpro F-version only; 308 nm with LPXpro C-version only.

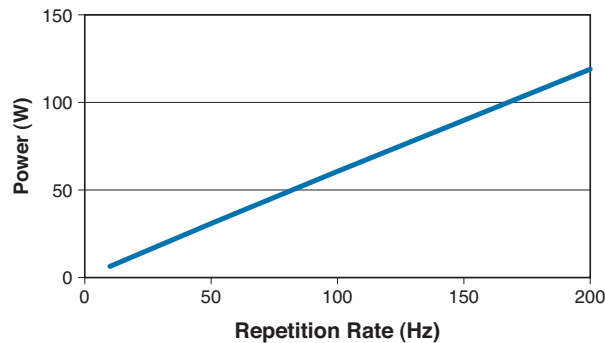
² At 193 nm (300 Hz only).

³ Max. average power at maximum high voltage. Max. stabilized power not specified for LPFpro.

⁴ At 157 nm.

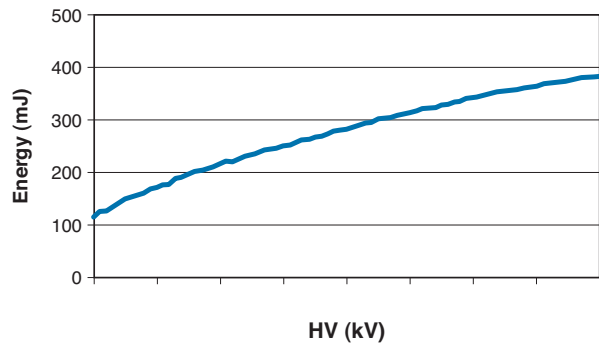
LPXpro 220 F at 248 nm

True specs: power specification with margin



LPXpro 220 F at 193 nm and 5 Hz

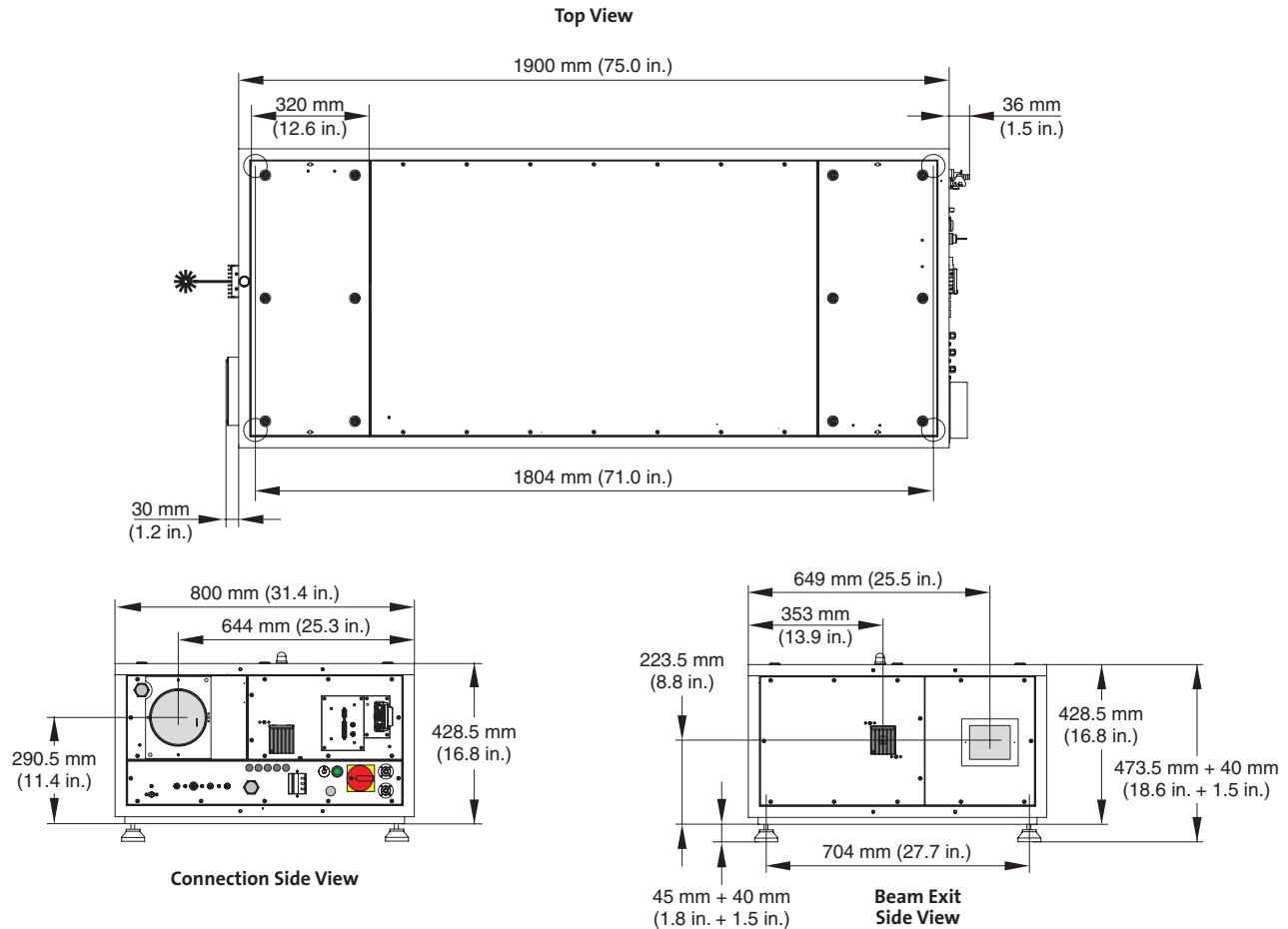
High pulse energy in deep UV



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Mechanical Specifications



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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 LPXpro 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.

MODEL	POWER	ENERGY	DURATION	λ
LPXpro 210	125W	0.6J	10 to 50 ns	157 to 800 nm
LPXpro 220	125W	0.6J	10 to 50 ns	157 to 800 nm
LPXpro 240	125W	0.6J	10 to 50 ns	157 to 800 nm
LPXpro 250	100W	1.6J	10 to 50 ns	157 to 800 nm
LPXpro 260	50W	0.6J	5 to 50 ns	157 to 800 nm
LPXpro 280	100W	0.6J	5 to 50 ns	157 to 800 nm

