

PulseMaster[®] 860 / 880 SERIES

High Energy Excimer Lasers



A series of advanced excimer lasers for scientific, process development and light industrial applications requiring high pulse energy and excellent beam quality

- Pulse energies up to 650 mJ at 248 nm and 600 mJ at 308 nm
- TMC[™] (Total Metal Ceramic) design for long gas lifetimes
- EasyClean automated optics seals to retain gas fill and reduce downtime during optics maintenance
- Excellent beam quality and stability
- Optional High-Brightness optics for applications requiring low beam divergence or extended coherence length



PulseMaster[®] 860 / 880 Series Excimer Lasers

Originally developed by Lumonics and now offered by LightMachinery, **PulseMaster PM-860/880 Series** excimer lasers are designed for processes that require high pulse energy. Applications include Pulsed Laser Deposition (PLD), Chemical Vapor Deposition (CVD), micromachining of hard materials such as ceramics and nitrides and patterning of thin metal layers.

TMC™ (Total metal ceramic) construction ensures excellent gas lifetime and low operating costs. Powerful microprocessor controls permit precise control over laser operating parameters, stabilize the laser output power even in burst mode, and simplify routine maintenance procedures.

EasyClean automated valves fitted to the optics ports allow the laser chamber to be sealed and the gas fill / passivation to be retained while the resonator optics are removed for cleaning and maintenance – a feature pioneered by Lumonics.

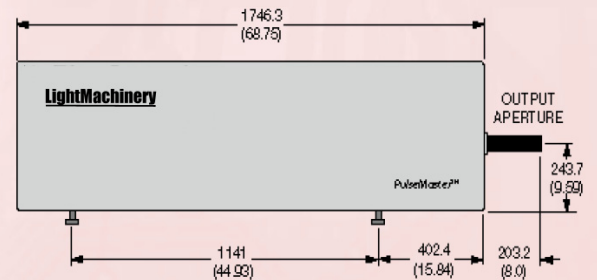
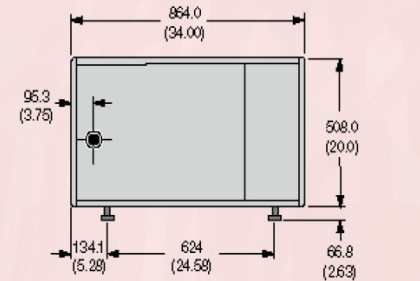


Specifications	PM-860 Series				PM-880 Series		
	ArF	KrF	XeCl	XeF	XeCl		
Wavelength (nm)	193	248	308	351	308		
Maximum Pulse Energy (mJ)	250	650	400	350	600		
Stabilised Average Power (W)	PM-868	20	60	35	30	PM-888	50
	PM-866	10	30	18	15	PM-886	25
	PM-864	5	18	10	9	PM-884	10
	PM-862	2.5	9	5	4.5	PM-882	5
Maximum Repetition Rate (pps)	PM-868	100	100	100	100	PM-888	100
	PM-866	50	50	50	50	PM-886	50
	PM-864	25	30	30	30	PM-884	20
	PM-862	12	15	15	15	PM-882	10
Pulse Duration (ns) (FWHM, nominal)	12 - 20				14 - 26		
Beam Dimensions (mm) (V x H, nominal)	8-12 x 28				12-17 x 29		
Beam Divergence (mrad) (V x H, nominal)	1.5 x 4				1.5 x 3.5		
Timing Jitter (ns)	± 2				± 2		

Facilities

- Electrical:** **Models PM-868, PM-866, PM-888, PM-886:**
3-phase, 4-wire, 208 V 30 A or 400 V 20 A
50 / 60 Hz
Models PM-864, PM-862, PM-884, PM-882:
Single-phase, 200 – 240 V, 50 / 60 Hz, 15 A
- Cooling water:** 5°-20°C, 40-60 psig
8X8, 8X6 models: 10 liters / minute
8X4, 8X2 models: 5 liters / minute
- Laser gases:** Kr or Xe rare gas, F₂ or HCl halogen gas, Ne and He buffer gases; or Pre-mixed gas
Compressed air or nitrogen (for EasyClean optics gate valves & beam shutter)

Specifications are subject to change. Please consult LightMachinery for latest information.



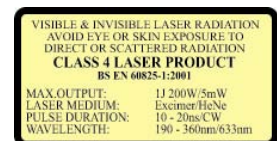
Dimensions in mm (inches)

www.lightmachinery.com

LightMachinery

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