

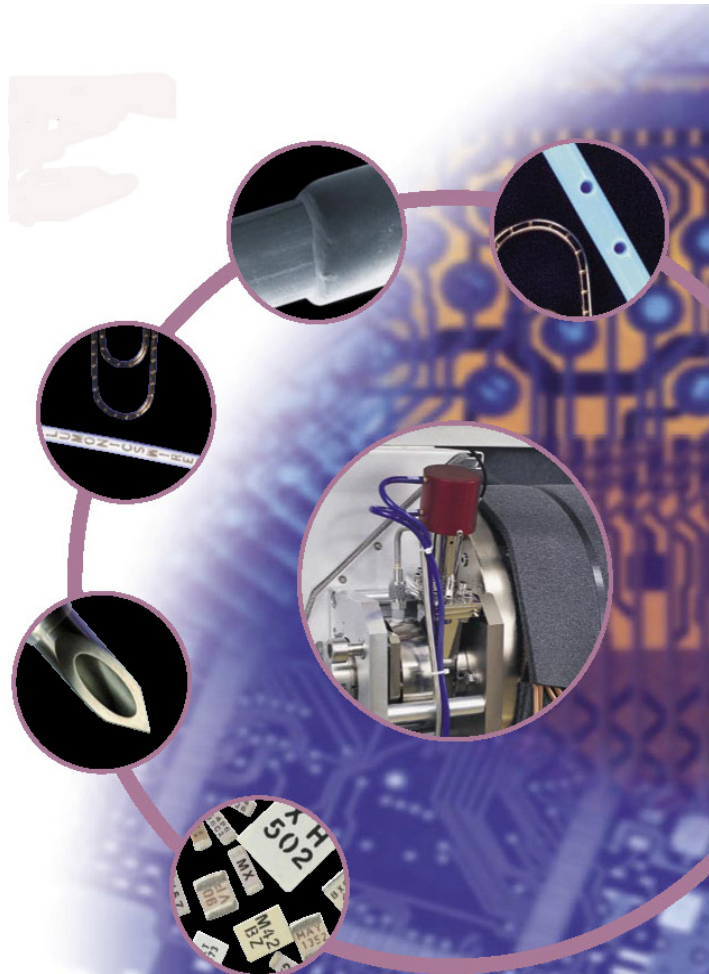
IPEX™ 840 / 860 SERIES

Industrial Excimer Lasers



Industrial excimer lasers for precision applications in electronics, telecommunications, semiconductor, medical devices and pulsed laser deposition

- **ICON™ (Integrated Ceramic on Nickel) technology for ultimate gas lifetimes and lowest cost of operation**
- **EasyClean automated optics seals to retain gas fill and reduce downtime during optics maintenance**
- **Optional High-Brightness optics for applications requiring low beam divergence or extended coherence length**
- **High-stability optics mounts for ultimate beam pointing accuracy**
- **Simple integration into industrial processing systems**



IPEX™ -840 / 860 Series Industrial Excimer Lasers

Originally developed by Lumonics and now offered by LightMachinery, the **IPEX-840/860 Series** excimer lasers deliver the performance and reliability required for a wide range of advanced, high duty-cycle industrial manufacturing applications in the electronics, semiconductor and medical device industries.

With ICON™ (Integrated-Ceramic-On-Nickel) technology, LightMachinery **IPEX-Series** lasers offer an exceptionally low cost of ownership and superior optical performance. High-Brightness (“Unstable Resonator”) optics are available for applications that demand long-path low beam divergence (e.g Lidar), extended

coherence length (e.g. FBG manufacturing) and improved focusing.

Easy to use, simple to service, and economical to operate, **IPEX-840/860 Series** lasers combine the benefits of high precision excimer processing with the lowest total cost of ownership and highest uptime on the market today.

Features

- ICON laser tube
- EasyClean automated optics seals
- Advanced optic mounts
- Keyed optics ⁽¹⁾
- StabiLase energy control
- Soft preionization ⁽²⁾
- Internal gas purification ⁽³⁾

(1) U.S. Patent 5,237,583

(2) U.S. Patent 5,081,638

(3) U.S. Patent 5,319, 663

Benefits

- Extended gas lifetime, long replacement intervals, low operating cost
- Simplifies optical maintenance, retains gas fill and passivation
- Delivers 200 microradian pointing stability
- No realignment required after cleaning or replacing optics
- Fast, precise energy stabilization in internal, burst and external trigger modes
- Enhanced energy stability, typical pulse energy variation $\leq 1.5\%$ (KrF)
- Removes particulates and maintains optics cleanliness

Specifications

	ArF	KrF	XeCl	XeF
Wavelength (nm)	193	248	308	351
Stabilised Pulse Energy (mJ)	Ipx-840 Series	150	400	250
	Ipx-860 Series	200	600	350
Stabilised Average Power (W)	Ipx-848	30	80	50
	Ipx-846	15	40	25
	Ipx-844	6.0	20	12
	Ipx-842	3.0	10	6.0
	Ipx-868	20	60	35
	Ipx-866	10	30	18
	Ipx-864	5.0	18	10
	Ipx-862	2.5	9.0	5.0
Maximum Repetition Rate (pps)	Ipx-848	200		
	Ipx-846	100		
	Ipx-844	50 (40 on ArF)		
	Ipx-842	25 (20 on ArF)		
	Ipx-868	100		
	Ipx-866	50		
	Ipx-864	30 (25 on ArF)		
	Ipx-862	15 (12 on ArF)		

Pulse Duration (ns) FWHM, nominal)	12-20	
Beam Dimensions (mm) (V x H, nominal)	Ipx-840 Series	12 x 26
	Ipx-860 Series	12 x 28
Beam Divergence (mrad) (V x H, nominal)	Ipx-840 Series	1 x 3
	Ipx-860 Series	1.5 x 4

Facilities

Electrical:

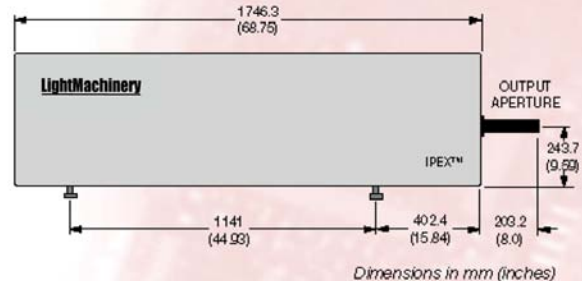
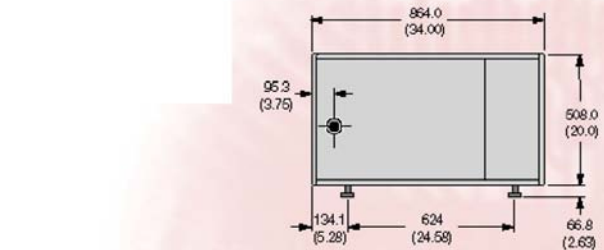
8x8 & 8x6 models 3-phase, 4-wire, 208 V 30 A or 400 V 20A, 50 or 60 Hz
8x4 & 8x2 models Single-phase 200 – 240 V, 20 A, 50 or 60 Hz

Cooling water: 8x8 & 8x6 models: 10 liters / minute, 5°-20°C, 40-60 psig
8x4 & 8x2 models: 5 liters / minute, 5°-20°C, 40-60 psig

Laser gases: Ar, Kr or Xe rare gas, F₂ or HCl halogen gas (diluted), Ne and He buffer gases; or Pre-mixed gas.
Compressed air or nitrogen (for optics gate valves & beam shutter)

Weight installed: 8x8 & 8x6 models: 230 kg 8x4 & 8x2 models: 210 kg

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



www.lightmachinery.com

LightMachinery

Lumonics, LaserMark, Index, Ipx, PulseMaster, Impact, Icon, TMC are trademarks of LightMachinery

For further technical and sales information, please visit our website or contact:
lasers@lightmachinery.com
(613) 749-4895
LightMachinery Inc.
80 Colonnade Road
Ottawa, Ontario, Canada, K2E 7L2

VISIBLE & INVISIBLE LASER RADIATION
AVOID EYE OR SKIN EXPOSURE TO
DIRECT OR SCATTERED RADIATION
CLASS 4 LASER PRODUCT
BS EN 60825-1:2001
MAX OUTPUT: 1J 200W/5mW
LASER MEDIUM: Excimer/HeNe
PULSE DURATION: 10 - 20ns/CW
WAVELENGTH: 190 - 360nm/633nm

Printed in Canada. January 2011