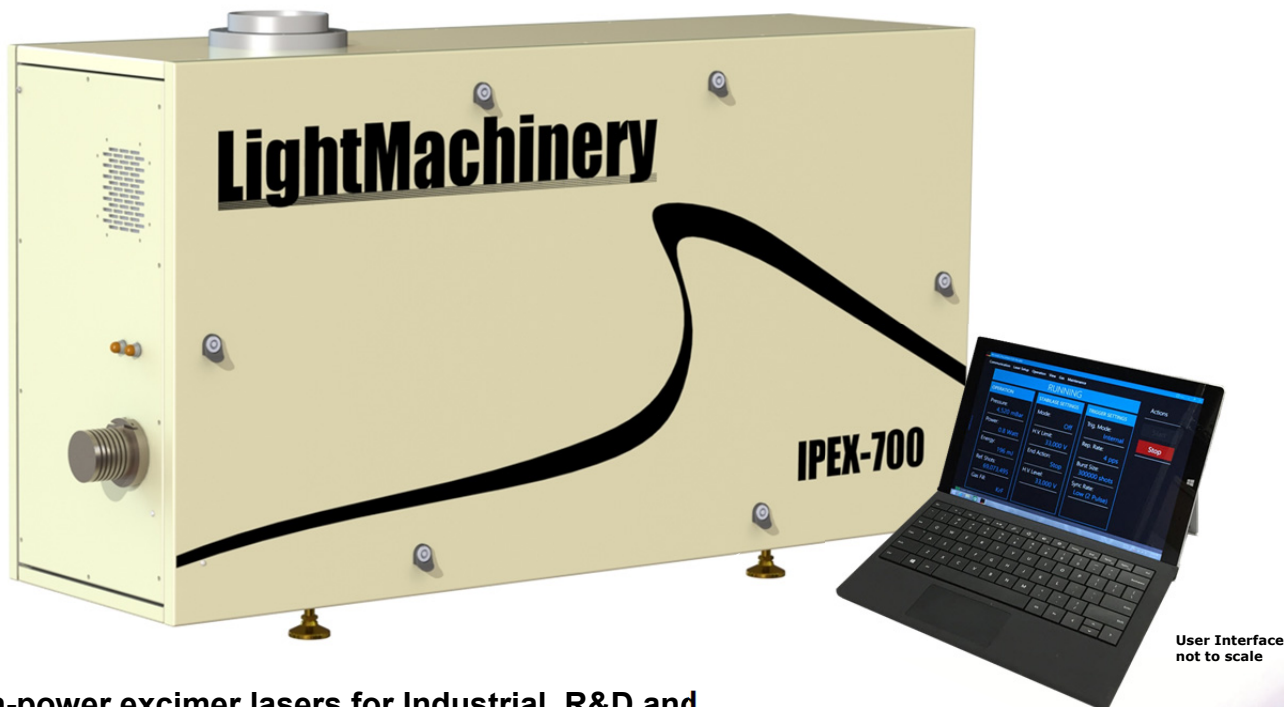
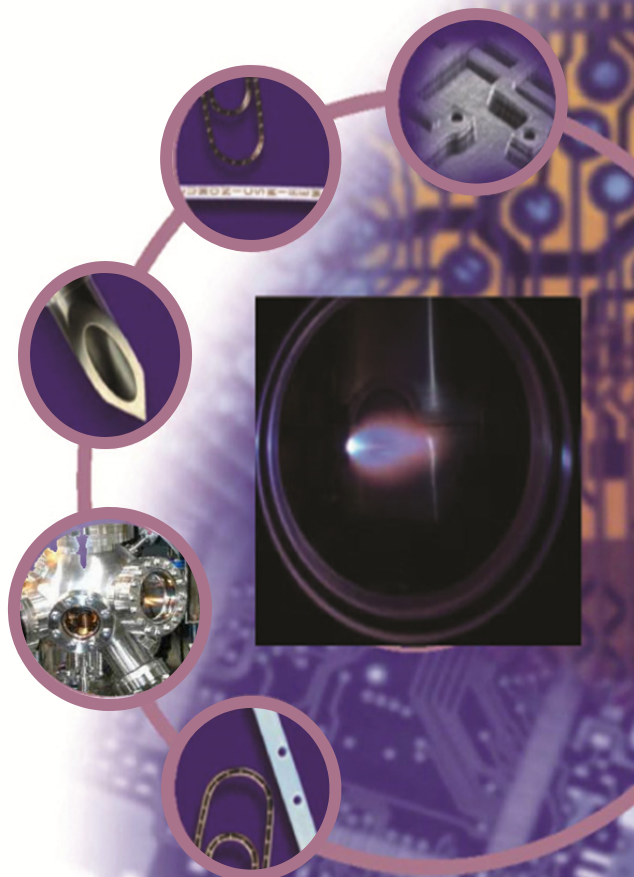


# IPEX™ -700 Series

*Excimer Lasers for Industry and Science*



- Medium-power excimer lasers for Industrial, R&D and Scientific applications (including Pulsed Laser Deposition), based on LightMachinery's best-selling high-power IpeX-800 Series industrial excimer lasers
- Now with exciPure™ technology for ultimate gas lifetimes and lowest cost of operation
- Simple, direct control from a new-generation tablet-based user interface
- User-convenient features, optional air-cooling to 25 Hz, single-phase electrical power, small footprint, single-sided service access, EasyClean™ automated optics seals to retain gas fill and reduce downtime during optics maintenance
- Excellent beam uniformity, pulse-to-pulse energy stability and short pulse duration
- High-stability optics mounts for ultimate beam pointing accuracy & optional high-brightness optics for applications requiring low beam divergence



**LightMachinery**  
Excellence in Lasers and Optics

# IPEX™ -740 / 760 Series Excimer Lasers for Industrial and Scientific Applications

**IPEX-700 Series lasers** are designed for medium-power industrial processing and scientific applications. They deliver versatile performance combined with state-of-the-art industrial reliability.

**exciPure™** technology, introduced in 2016, combines improved materials, a new dual-stage filter that removes both particulate and gaseous contaminants and an improved stabilization algorithm.

It represents the greatest improvement in excimer gas lifetime and reduction in operating costs in a generation.

**EasyClean™** automated valves fitted to the optics ports allow the laser chamber to be sealed and the gas fill / passivation to be retained while resonator optics are removed for cleaning and maintenance.

**Simple to use** (advanced tablet-based operator interface, optional air cooled

operation to 25 Hz, premix or individual gas cylinders, single phase electrical power, integral oil-free vacuum pump), with single-sided service access and economical to operate, IPEX-700 lasers combine the benefits of high performance with the lowest total cost of ownership and best uptime in the market today.

IPEX-700 lasers are ideal for applications such as pulsed laser deposition (PLD).

## Optical Beam Delivery Systems

LightMachinery is more than just a laser supplier. With our optical design expertise and together with our integration partners, we can offer complete laser / beam delivery / processing systems for many requirements, including those of PLD customers.

## Specifications

Wavelength (nm)		193 (ArF)	248 (KrF)	308 (XeCl)	351 (XeF)
Maximum Pulse Energy (mJ) at low repetition rates	Ipex-740 Series Ipex-760 Series	230 250	475 700	300 600	275 350
Stabilised Pulse Energy (mJ) at maximum repetition rates	Ipex-740 Series Ipex-760 Series	150 200	400 600	250 500	225 300
Stabilised Average Power (W)	Ipex-746	15	40	25	22
	Ipex-744	7.5	20	12	11
	Ipex-742	3.7	10	6.0	5.5
	Ipex-766	10	30	25	15
	Ipex-764	6.0	18	10	9.0
	Ipex-762	3.0	9.0	5.0	4.5
Maximum Repetition Rate (pps)	Ipex-746	100	100	100	100
	Ipex-744	50	50	50	50
	Ipex-742	25	25	25	25
	Ipex-766	50	50	50	50
	Ipex-764	30	30	20	30
	Ipex-762	15	15	10	15
Pulse Duration (ns) (FWHM)		12-20			
Energy Stability, 1 Sigma (%) (KrF)		1			
Beam Dimensions (mm) (V x H) (nominal)	Ipex-740 Series	12 x 26			
	Ipex-760 Series	12 x 28			
Beam Divergence (mrad) (V x H) (nominal) *	Ipex-740 Series	1 x 3			
	Ipex-760 Series	1 x 3			

\*With standard resonator optics. Can be reduced to ~250 µrad with High Brightness Unstable Resonator Optics

Specifications are subject to change.

Please consult LightMachinery for latest information

## Facilities

### Electrical Power

Single-phase, 200 – 240 V  
50 / 60 Hz

### Cooling

Optional air cooling up to 25 Hz  
repetition rates  
Water cooling at higher repetition  
rates

### Laser Gas

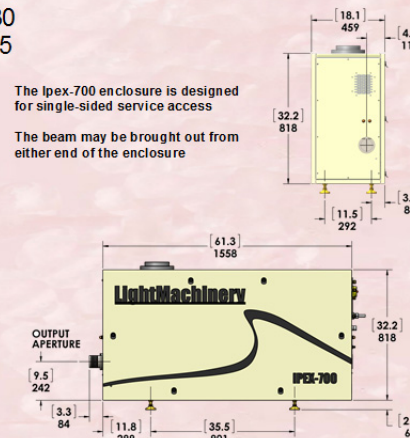
Premix or individual gas cylinders.  
Consult LightMachinery for details

### Weight (net)

295 kg / 650 lbs.

The Ipex-700 enclosure is designed  
for single-sided service access

The beam may be brought out from  
either end of the enclosure



Dimensions in mm [inches]

[www.lightmachinery.com](http://www.lightmachinery.com)

**LightMachinery**  
Excellence in lasers and optics

Lumonics, Ipex, Impact, Icon, TMC, exciPure are  
trademarks of LightMachinery

For further technical and sales information,  
please visit our website or contact:

[lasers@lightmachinery.com](mailto: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: 11 200W/5mW  
LASER MEDIUM: Excimer/HeNe  
PULSE DURATION: 10 - 20ns/CW  
WAVELENGTH: 190 - 360nm/633nm

Printed in Canada. June 2016