

IMPACT[®]-3000 SERIES

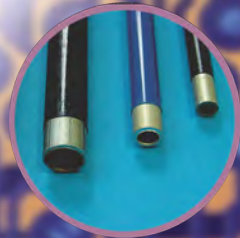
High Power Industrial Pulsed CO₂ Lasers



High-power short-pulse CO₂ lasers for surface layer removal and cleaning, non-destructive testing, and photochemistry

Typical Applications

- **Surface Layer Removal and Cleaning**
 - Polymer Coatings
 - Brake Lines
 - Paint Stripping
 - Mold Cleaning
- **Non-Destructive Testing**
 - Laser Ultrasound Generation
- **Photochemistry and Spectroscopy**
 - Isotope Separation
 - LIDAR and remote sensing



IMPACT®-3000 Series lasers are high powered TEA CO₂ lasers designed for advanced applications in materials processing, non-destructive testing, photochemistry and scientific research.

For **Materials Processing**, their combination of high peak power and short pulses permits the removal of surface layers such as polymer coatings, paint or contamination from metal or composite backings with no

damage to the underlying material and minimal heat-affected zone (HAZ). Their high average power offers fast throughput. Applications include flex circuit processing, medical device manufacturing, brake tube stripping, paint stripping and mold cleaning.

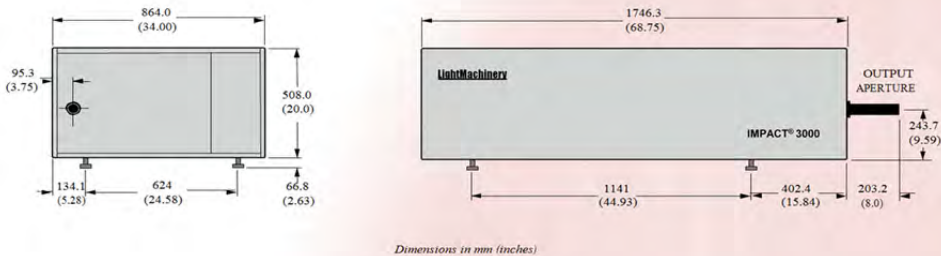
In **Non-Destructive Testing**, the high pulse repetition rate, short pulse durations and optimised mode structure of IMPACT-3000 lasers make them an

ideal generation source for laser ultrasound (Laser UT) testing of composite matrix materials.

For **Photochemistry** and advanced **Scientific Research**, the high repetition rate and high average power can be utilised in applications as diverse as isotope separation and remote sensing / LIDAR.

Specifications

Model Number	3100	3125	3150	3100HP	3125HP	3150HP	3400	
Laser Type	Pulsed CO ₂ , transversely excited at atmospheric pressure							
Maximum Energy (J)	@ 10.6 µm	2.0	1.6	1.3	3.0	2.4	2.0	0.30
	@ 9.3 µm	1.8	1.4	1.2	3.0	2.4	2.0	0.25
Maximum Power (W)	@ 10.6 µm	200		300		120		
	@ 9.3 µm	180		300		100		
Maximum Repetition Rate (pps)	100	125	150	100	125	150	400	
Output Wavelength (µm)	9.0 to 11.0 (infrared)							
Beam Size (mm) (at laser)	19 x 19						11 x 11	
Beam Divergence (half angle) (mrad)	~6.0						~2.0	
Weight	Installed 480 kg (1050 lbs.), Shipping 530 kg (1200 lbs.)							
Electrical Requirements	3-phase, 4-wire, 208 or 400VAC, 50 or 60Hz, 30 Amps							
Water Cooling Requirements	See below*							
Laser Gas Requirements	Commercial gas pre-mix**, <0.01 SCFN (0.2 liters per hour)							
Compressed Air Requirements	80 psig dry							



Dimensions in mm (inches)

* IMPACT-3000 lasers require a temperature-stabilized closed-cycle cooling supply capable of removing 4 kW of heat at a temperature of 13°C – 20°C at a minimum differential pressure of 2.0 bars. Impact-3000HP lasers require a temperature-stabilized closed-cycle cooling supply capable of removing 5.5 kW of heat at a temperature of 13°C – 20°C at a minimum differential pressure of 3.0 bars.

** Consult LightMachinery for details of gas mix and purity requirements.

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

www.lightmachinery.com

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

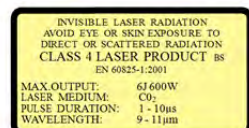
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