

IMPACT[®]-2000 SERIES

Short-Pulse Industrial CO₂ lasers



A versatile range of short-pulse CO₂ lasers for machining, patterning and drilling of plastic, polymer and other non-metallic materials

- **Megawatt peak powers give excellent edge-definition in non-metallic materials**
- **Greatly reduced heat-affected-zone (HAZ) compared to conventional CO₂ lasers**
- **A cost-effective alternative to excimer lasers for many processes**
- **Typical applications:**
 - Drilling, patterning and ablation of non-metallic materials
 - Selective removal of polymer materials from a metal substrate with no damage to the metallic backing
 - Wire stripping
 - Medical device components
 - Drilling of controlled-release and rapid-release pharmaceutical tablets and capsules
 - Microvia-hole drilling in printed circuits
 - Flex-circuit processing
 - Laser ultrasound non-destructive testing



LightMachinery Impact[®]-2000 Series

IMPACT-2000 Series short-pulse (TEA) CO₂ lasers (originally developed by Lumonics Inc. and now offered by LightMachinery Inc.) are primarily designed for fine-processing of non-metallic materials.

The **Impact-2000 Series** lasers are ideally suited for the selective removal or machining of non-metallic layers deposited on a metallic under-layer. Unlike conventional CO₂ lasers, the ultra-short pulses and high peak powers of TEA CO₂ lasers enable the surface layer to be removed ("ablated") with little or no effect on the underlying metal substrate, and with minimal thermal damage ("heat-affected-zone" or "HAZ") to the surrounding polymer material.

Typical applications include microvia-drilling and insulation patterning or removal in printed and flexible circuits; insulation stripping of fine electrical wires; "on-the-fly" drilling / patterning of controlled and rapid release pharmaceutical capsules and tablets; drilling and processing of catheters and similar medical devices; marking of security and anti-counterfeiting codes; laser ultrasound non-destructive testing. Feature sizes as low as ~50 µm can be achieved.

In these and other applications, **IMPACT-2000 Series** lasers can offer an extremely cost-effective alternative to excimer lasers, with faster throughput, simpler operation and lower cost-of-ownership.

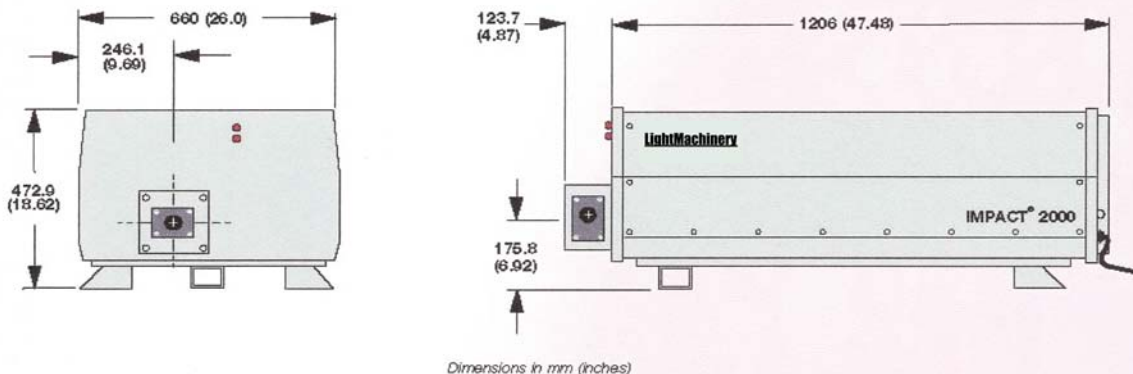
Industrial CO₂ lasers normally operate at an infrared wavelength of 10.6 µm. However, for most applications involving the processing of non-metallic / polymer materials, a wavelength in the 9 µm region usually provides superior processing quality. The **Impact-2000 Series** lasers can be set to operate at either wavelength, depending on the specific application.

Various models of the **Impact-2000 Series** lasers are available, offering a choice of pulse energy and repetition rates. LightMachinery will be happy to process your samples in our Applications Laboratory and to recommend the particular model and configuration of **IMPACT-2000 Series** laser best suited for your application.

Specifications

Model Number	2012	2015	2030	2150	2300	2500
Pulse Energy (J)	5	4	2	0.4	0.15	0.15
Max. Average Power (W)	60	60	60	60	45	75
Max. Repetition Rate (pps)	12	15	30	150	300	500
Beam Size (H x V, mm) at laser	25 x 25	25 x 25	12 x 16	14 x 11	7 x 9	8 x 9

Note: Specifications apply to operation in both the 10 µm and 9 µm wavelength ranges

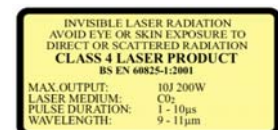


Specifications are subject to change. Please consult LightMachinery for further details

www.lightmachinery.com

LightMachinery

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