

# INFINITY PLUS | CO<sub>2</sub> LASERS

Achieve the Highest Performance



## Superior Power and Stability

Experience superior productivity with a proprietary configuration of our patented CERAMICORE® technology.



## Unmatched Longevity

No laser gas degradation with CERAMICORE® design. Guaranteed power and reliability for life time.



## Fast Part Production

Experience some of the fastest rise and fall pulse times in the industry.

## Power and Versatility for Special Applications

### Optimum Wavelength with High Performance Benefits

Infinity PLUS series tubes feature unmatched **CO<sub>2</sub> laser power stability** and **pulsing specifications**, while still observing the **Infinity's compact** footprint. Infinity PLUS lasers are available as 50, 60, 80 and 100-Watt models with a choice of 10.6, 10.2 and 9.3 μm wavelengths. Fan-cooling or water-cooling is available on all power levels. All Infinity models are **easy to integrate**, and **can be interchangeable** to fit your new or existing work stations, equipment and systems.

## Applications

### Faster Laser Part Production and Better Part Quality

Special applications require special wavelengths! A wide range of industries are benefitting with the Infinity PLUS series including Automotive, Electronics, identification marking/coding, Retail packaging, Food packaging, Job Shop production, Industrial manufacturing and others for laser processing:

- Cutting/perforating
- Marking/coding
- Engraving/etching
- Ablation
- Surface modification
- Heat treating
- 3D polymer sintering

## Benefits

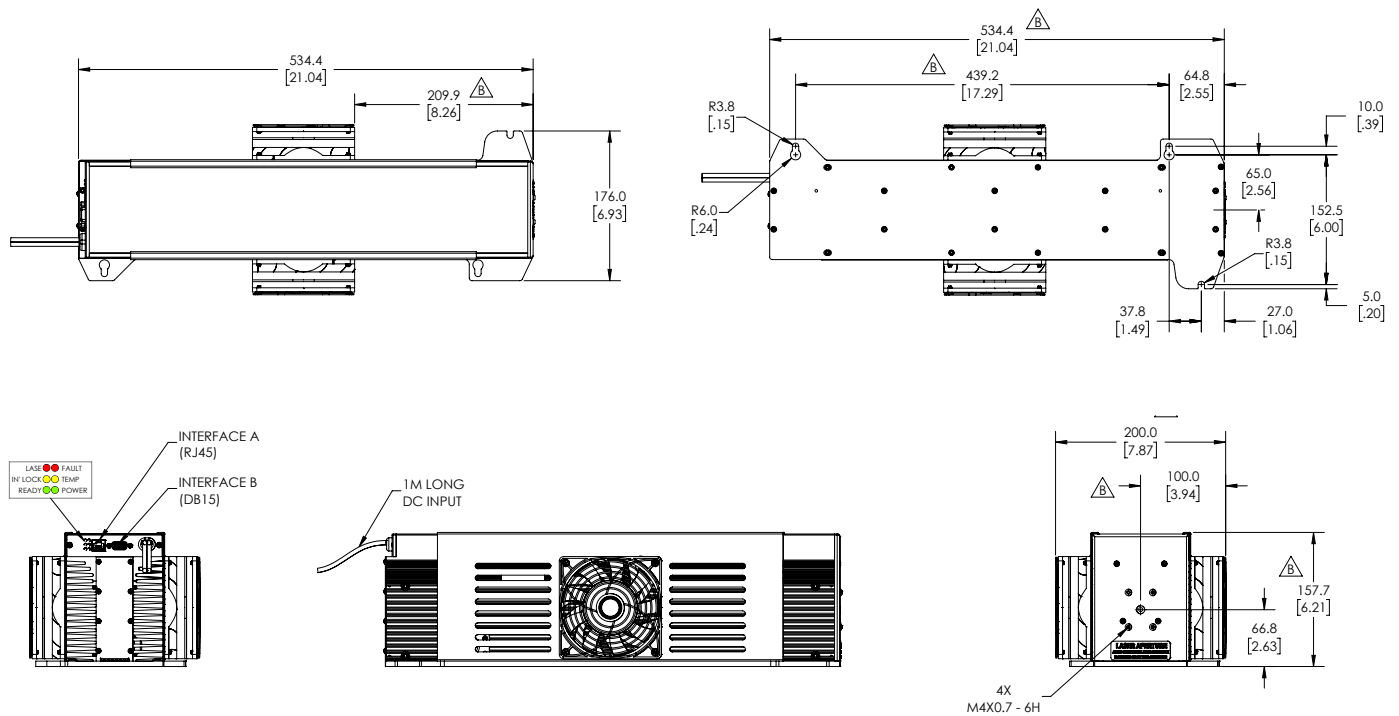
### Easy to Integrate

The easy to integrate Infinity PLUS series obeys the Infinity family principles of being a truly versatile laser source for all applications and platforms. Choose the power levels, wavelengths, and cooling methods to meet your requirements.

The rise and fall time specifications of the Infinity Plus series laser tube are among the fastest in the industry. Experience **faster processing speeds** with **higher resolution**. Increase your part production by up to 4 times as compared to conventional CO<sub>2</sub> laser tubes.

All Infinity models are scalable and modular for easy integration into new or existing systems. The footprint, beam specification and laser operation are nearly identical, giving integrators, OEM equipment builders and users maximum versatility and flexibility for their product lines and systems. **CERAMICORE's superior performance, reliability and longevity outperform conventional CO<sub>2</sub> lasers, enabling the lowest total cost of ownership.**

## Technical Drawings



## Customizations & Options

### Optimize Your Infinity PLUS CERAMICORE® Laser

Customize your Infinity PLUS laser for your applications with power, wavelength, pulsing, and cooling options:

- Power levels: 50, 60, 80, and 100-Watt
- Wavelengths options: 10.6  $\mu\text{m}$ , 10.2  $\mu\text{m}$ , 9,3  $\mu\text{m}$
- Beam expansion or collimation: 2.5x, 3x, 4x, 5x, 6x
- Pulse: Fast Pulse
- Cooling system: Fan-cooled or water-cooled
- Mounting adaptor plates: Retrofit replacement of old lasers
- Power supply models and sources
- Laser controls
- Customized final testing
- Operation and training programs
- Rapid response service program
- Laser gas degradation insurance

## Advantages

### Ultimate Process Results

Experience maximum performance, power, stability, rise /fall times and longevity with Infinity PLUS series:

- Compact package for robotic and gantry laser mounting
- Retrofit replacement for your old conventional CO<sub>2</sub> laser
- Patented CERAMICORE® design ensures longevity
- Inert CERAMICORE® prevents laser gas contamination, power loss
- Low thermal expansion CERAMICORE® for high stability
- Lowest Power Stability from 2% to maximum power
- Shortest rise and fall times; good pulsing characteristics
- Advanced RF driver electronics: reliable, efficient and state-of-the-art
- 30% fewer laser components; highest reliability

**Specifications**

<b>Infinity PLUS</b>						
<b>Model</b>	i50	i60	i80	i100	i120	
<b>Nominal Power</b>	50 W	60 W	80 W	100 W	120 W	
<b>Beam Quality</b>	$M^2 \leq 1.2$	$M^2 \leq 1.2$	$M^2 \leq 1.2$	$M^2 \leq 1.2$	$M^2 \leq 1.2$	
<b>Beam Ellipticity</b>	< 1.2:1	< 1.2:1	< 1.2:1	< 1.2:1	< 1.2:1	
<b>Beam Diameter (mm), 1/e<sup>2</sup> @ 0m</b>	2.5 ± 0.5	2.5 ± 0.5	2.5 ± 0.5	2.5 ± 0.5	2.5 ± 0.5	
<b>Beam Divergence (full angle)</b>	6 ± 1 mrad	6 ± 1 mrad	6 ± 1 mrad	6 ± 1 mrad	6 ± 1 mrad	
<b>Wavelength</b>	9.3 μm, 10.2 μm, 10.6 μm	9.3 μm, 10.2 μm, 10.6 μm	9.3 μm, 10.2 μm, 10.6 μm	9.3 μm, 10.2 μm, 10.6 μm	10.6 μm	
<b>Rise Time</b>	< 40 μs	< 40 μs	< 40 μs	< 40 μs	< 40 μs	
<b>Power Stability. Fan (Water)</b>	< ± 4% (< ± 1.5%)	< ± 4% (< ± 1.5%)	< ± 4% (< ± 1.5%)	< ± 4% (< ± 1.5%)	< ± 4% (< ± 1.5%)	
<b>Polarization</b>	Linear	Linear	Linear	Linear	Linear	
<b>Cooling</b>	Fan/Water	Fan/Water	Fan/Water	Fan/Water	Fan/Water	
<b>Input power/Heat Load</b>	900 W	1000 W	1125 W	1440 W	1500 W	
<b>Input Voltage, Current</b>	36 V/25 A	40 V/25 A	45 V/25 A	48 V/30 A	50 V/30 A	
<b>Frequency Range</b>	0.1 kHz - 140 kHz	0.1 kHz - 140 kHz	0.1 kHz - 140 kHz	0.1 kHz - 140 kHz	0.1 kHz - 140 kHz	
<b>Operating Temperature</b>	5°C - 40°C (40°F - 104°F)	5°C - 40°C (40°F - 104°F)	5°C - 40°C (40°F - 104°F)	5°C - 40°C (40°F - 104°F)	5°C - 40°C (40°F - 104°F)	
<b>Operating Humidity</b>	Non-Condensing	Non-Condensing	Non-Condensing	Non-Condensing	Non-Condensing	
<b>Shipping Temperature</b>	-10° - 60° (14°F - 140°F)	-10° - 60° (14°F - 140°F)	-10° - 60° (14°F - 140°F)	-10° - 60° (14°F - 140°F)	-10° - 60° (14°F - 140°F)	
<b>Weight</b>	14.7 kg/32.4 lbs.	14.7 kg/32.4 lbs.	14.7 kg/32.4 lbs.	14.7 kg/32.4 lbs.	14.7 kg/32.4 lbs.	
<b>Dimensions (L x W x H)</b>	534.4 mm x 200.0 mm x 157.7 mm (water-cooled width: 176.0 mm)	534.4 mm x 200.0 mm x 157.7 mm (water-cooled width: 176.0 mm)	534.4 mm x 200.0 mm x 157.7 mm (water-cooled width: 176.0 mm)	534.4 mm x 200.0 mm x 157.7 mm (water-cooled width: 176.0 mm)	534.4 mm x 200.0 mm x 157.7 mm (water-cooled width: 176.0 mm)	

\*Power Stability is measured after 5 minutes warmup.  
Iradion follows a policy of continuous product improvement. All specifications are subject to change without notice. Rev. 1.2, 03/2024.

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**ENDURING EXCELLENCE, PULSE BY PULSE.**

