

INFINITY PLUS | CO₂ 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 **CO₂ 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

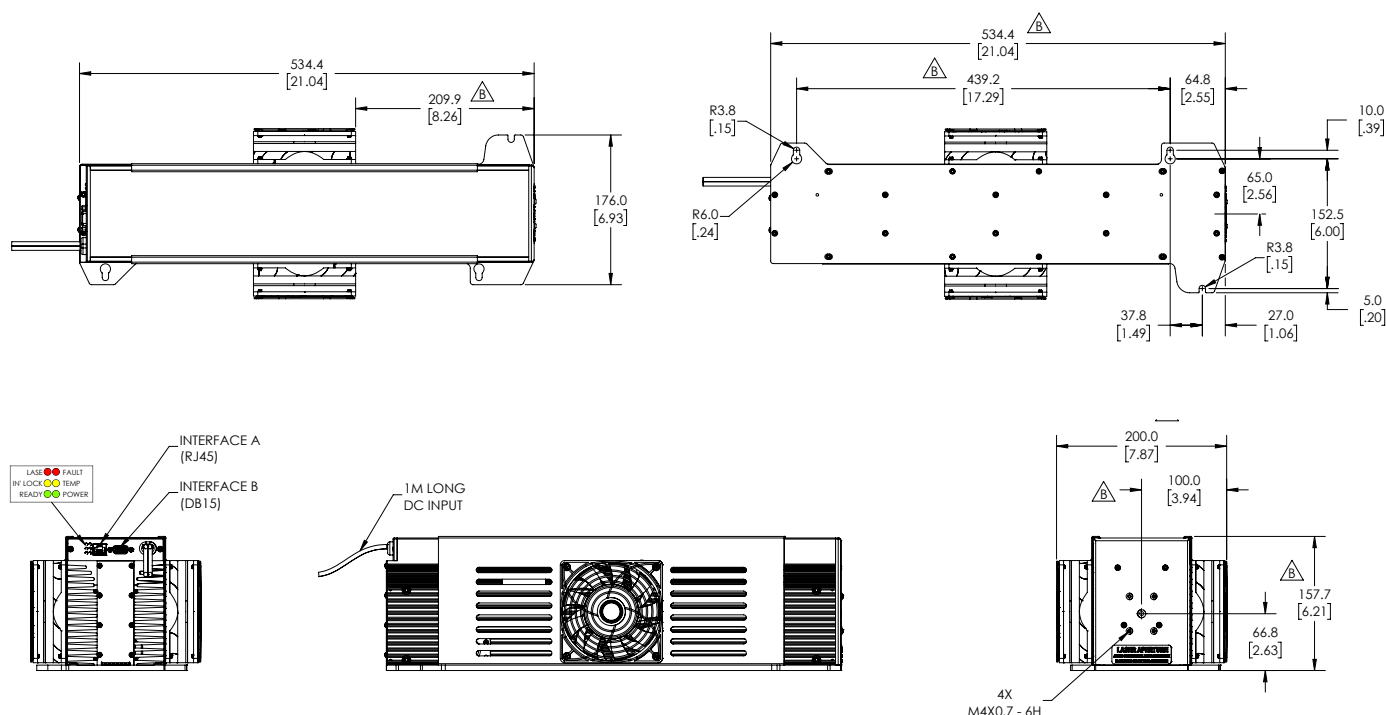
Easy to Integrate

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 CO₂ 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 CO₂ 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 μm , 10.2 μm , 9.3 μm
- 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 CO₂ 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

Infinity PLUS					
Model	i50	i60	i80	i100	i120
Nominal Power	50 W	60 W	80 W	100 W	120 W
Beam Quality	M² ≤ 1.2	M² ≤ 1.2	M² ≤ 1.2	M² ≤ 1.2	M² ≤ 1.2
Beam Ellipticity	< 1.2:1	< 1.2:1	< 1.2:1	< 1.2:1	< 1.2:1
Beam Diameter (mm), 1/e² @ 0m	2.5 ± 0.5	2.5 ± 0.5	2.5 ± 0.5	2.5 ± 0.5	2.5 ± 0.5
Beam Divergence (full angle)	6 ± 1 mrad	6 ± 1 mrad	6 ± 1 mrad	6 ± 1 mrad	6 ± 1 mrad
Wavelength	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
Fall Time	< 40 µs	< 40 µs	< 40 µs	< 40 µs	< 40 µs
Power Stability. Fan (Water)	< ± 4 % (< ± 1.5 %)	< ± 4 % (< ± 1.5 %)	< ± 4 % (< ± 1.5 %)	< ± 4 % (< ± 1.5 %)	< ± 4 % (< ± 1.5 %)
Polarization	Linear (Perpendicular to mounting plate)	Linear (Perpendicular to mounting plate)	Linear (Perpendicular to mounting plate)	Linear (Perpendicular to mounting plate)	Linear (Perpendicular to mounting plate)
Cooling	Fan/Water	Fan/Water	Fan/Water	Fan/Water	Fan/Water
Input power/Heat Load	900 W	1000 W	1125 W	1440 W	1500 W
Input Voltage, Current	36 V/25 A	40 V/25 A	45 V/25 A	48 V/30 A	50 V/30 A
Frequency Range	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
Operating Temperature	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)
Operating Humidity	Non-Condensing	Non-Condensing	Non-Condensing	Non-Condensing	Non-Condensing
Shipping Temperature	-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)
Weight	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.
Dimensions (L x W x H)	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)

Nominal Power: Power Measured at 25 °C and may derate up to 1% per 1 °C for higher laser head temperatures.
Power Stability: Stability test was conducted at rated voltage and rated power, ± (Pmax-Pmin)/(Pmax+Pmin) after the laser warm up period of (5 minutes).
Iradion follows a policy of continuous product improvement. All specifications are subject to change without notice. Rev. 1.3, 10/2025.

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