INFINITY | CO_2 LASERS

Achieve High Performance

Unmatched Performance
Achieve better application results with our patented CERAMICORE® technology.

Unmatched Longevity
No laser gas degradation for exceptional beam stability.

Fast Part Production
High-speed pulsing option for most power levels and wavelengths.

Versatility to Process Wide Range of Applications

Widest Selection of Lasers with Same Footprint

The Infinity CERAMICORE® CO_2 laser tubes represent the most **universal laser package** in the industry. Infinity CO_2 laser tubes are available as 50, 60, 80, 120 and 150-Watt models with a choice of wavelengths and pulse specifications, **all with same footprint.**

Fan-cooling or water-cooling is available on all power levels except for the 150-Watt laser. All models can **easily be integrated** and are **interchangeable** to fit your product lines.

Applications

Faster Laser Processing

A wide range of industries including Automotive, Electronics, Identification marking or coding, Retail packaging, Food packaging, Job shop production and Industrial manufacturing have employed Infinity lasers for:

- Cutting/perforating
- Marking/coding
- Engraving/etching
- Ablation
- 3D polymer sintering
- Textile processing

Benefits

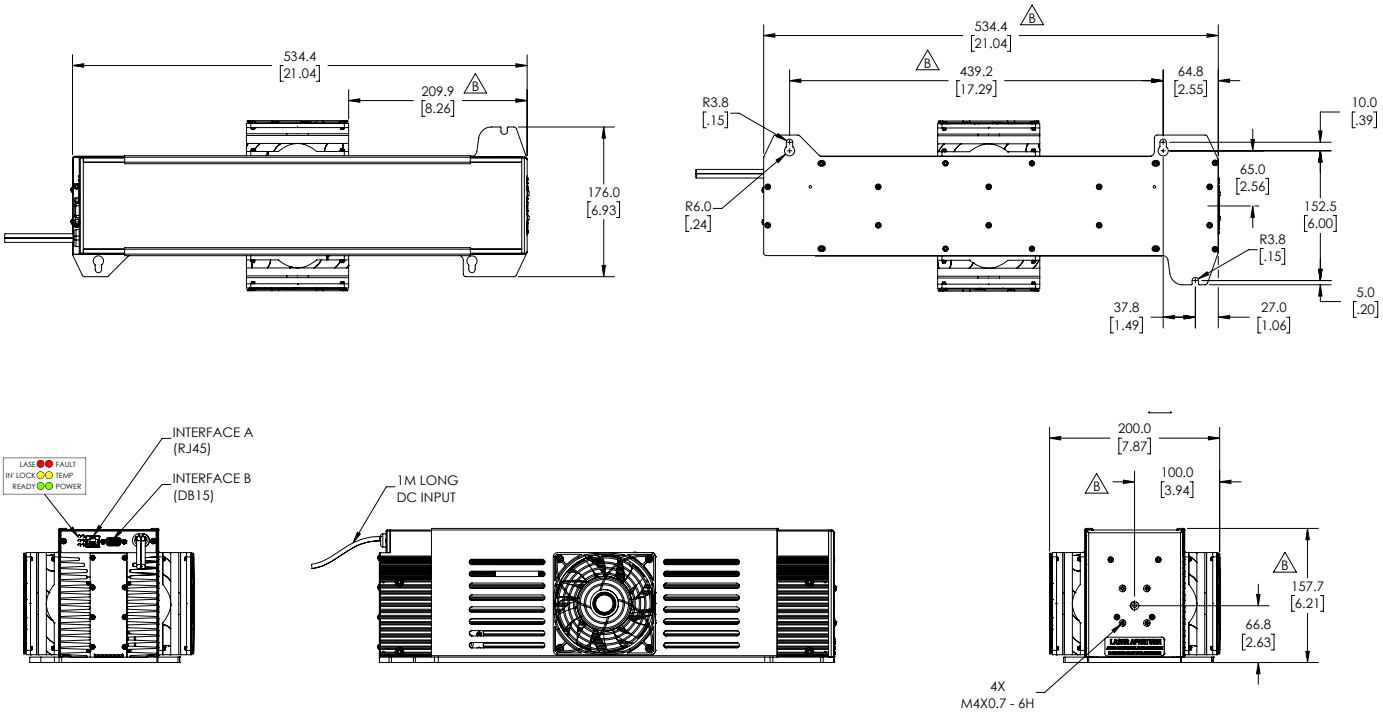
Easy to Integrate

The Infinity series is truly a universal laser source for all applications and platforms. Choose the power levels, wavelengths, and pulsing specifications to maximize your ability to handle all your applications.

The rise and fall time specifications of the Infinity Plus CO_2 laser tube are among the fastest in the industry. Experience **faster processing speeds** with a **higher resolution.** Increase your part production by up to 4 times compared to conventional CO_2 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_2 lasers, enabling the lowest total cost of ownership.**

Technical Drawings



Customizations & Options

Optimize Your Laser Processes

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

- Power levels: 50 W, 60 W, 80 W, 100 W, 120 W, 150 W
- Wavelengths options: 10.6 µm, 10.2 µm
- Beam expansion or collimation: 2.5x, 3x, 4x, 5x, 6x
- Pulse options: standard, 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

Better Process Results

Experience consistent power and longevity with the following additional advantages:

- Compact package for robotic and gantry laser mounting
- Retrofit replacement for your old conventional CO_2 laser
- Patented CERAMICORE® design ensures longevity
- Inert CERAMICORE® prevents laser gas contamination, power loss
- Low thermal expansion CERAMICORE® for high stability
- Extended power stability from 2 % to maximum power
- Short 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

Model	i50	i60	i80	i100	i120	i150
Nominal Power	50 W	60 W	80 W	100 W	120 W	150 W
Beam Quality	$M^2 \leq 1.2$	$M^2 \leq 1.2$	$M^2 \leq 1.2$	$M^2 \leq 1.2$	$M^2 \leq 1.2$	$M^2 \leq 1.2$
Beam Ellipticity	< 1.2:1	< 1.2:1	< 1.2:1	< 1.2:1	< 1.2:1	< 1.2:1
Beam Diameter (mm), $1/e^2$ @ 0m	2.5 ±0.5	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	6 ± 1 mrad
Wavelength	10.2 µm, 10.6 µm	10.2 µm, 10.6 µm	10.2 µm, 10.6 µm	10.2 µm, 10.6 µm	10.2 µm, 10.6 µm	10.2 µm, 10.6 µm
Fall Time	<75 µs	<75 µs	<75 µs	<75 µs	<75 µs	<75 µs
Power Stability. Fan (Water)	< ±5% (< ±3%)	< ±5% (< ±3%)	< ±5% (< ±3%)	< ±5% (< ±3%)	< ±5% (< ±3%)	(< ±3%)
Polarization	Random	Random	Random	Random	Random	Random
Cooling	Fan / Water	Fan / Water	Fan / Water	Fan / Water	Fan / Water	Water
Input power / Heat Load	900 W	1000 W	1125 W	1440 W	1500 W	1800 W
Input Voltage, Current	36 V / 25 A	40 V / 25 A	45 V / 25 A	48 V / 30 A	50 V / 30 A	60 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	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)	5˚C - 40˚C (40˚F - 104˚F)
Operating Humidity	Non-Condensing	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)	-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.	14.7 kg / 32.4 lbs.
Dimensions (for i150) (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)	643.2 mm x 176.0 mm x 157.7 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. 1.1, 10/2025.

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