

Infinity | CO₂ lasers

Achieve high 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.

Part of Ceramicore® - Sealed in purity. Designed for life.

With our patented Ceramicore® technology, you get pure ceramic CO₂ lasers engineered for unmatched stability, long life, and continuous-wave productivity.

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.

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 to 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.

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

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

Specifications

Infinity PLUS

Laser					
Model	i50	i60	i80	i100	i120
Central 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

Laser performance					
Nominal power	50 W	60 W	80 W	100 W	120 W
Beam quality	$M^2 \leq 1.2$	$M^2 \leq 1.2$	$M^2 \leq 1.2$	$M^2 \leq 1.2$	$M^2 \leq 1.2$
Beam ellipticity	< 1.2:1	< 1.2:1	< 1.2:1	< 1.2:1	< 1.2:1
Fall time	< 40 μs	< 40 μs	< 40 μs	< 40 μs	< 40 μs
Power stability*, water	< ± 4 % (< ± 1.5 %)	< ± 4 % (< ± 1.5 %)	< ± 4 % (< ± 1.5 %)	< ± 4 % (< ± 1.5 %)	< ± 4 % (< ± 1.5 %)

Laser beam propagation					
Beam diameter, 1/e ² @ 0 m	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
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)

Operating specifications					
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

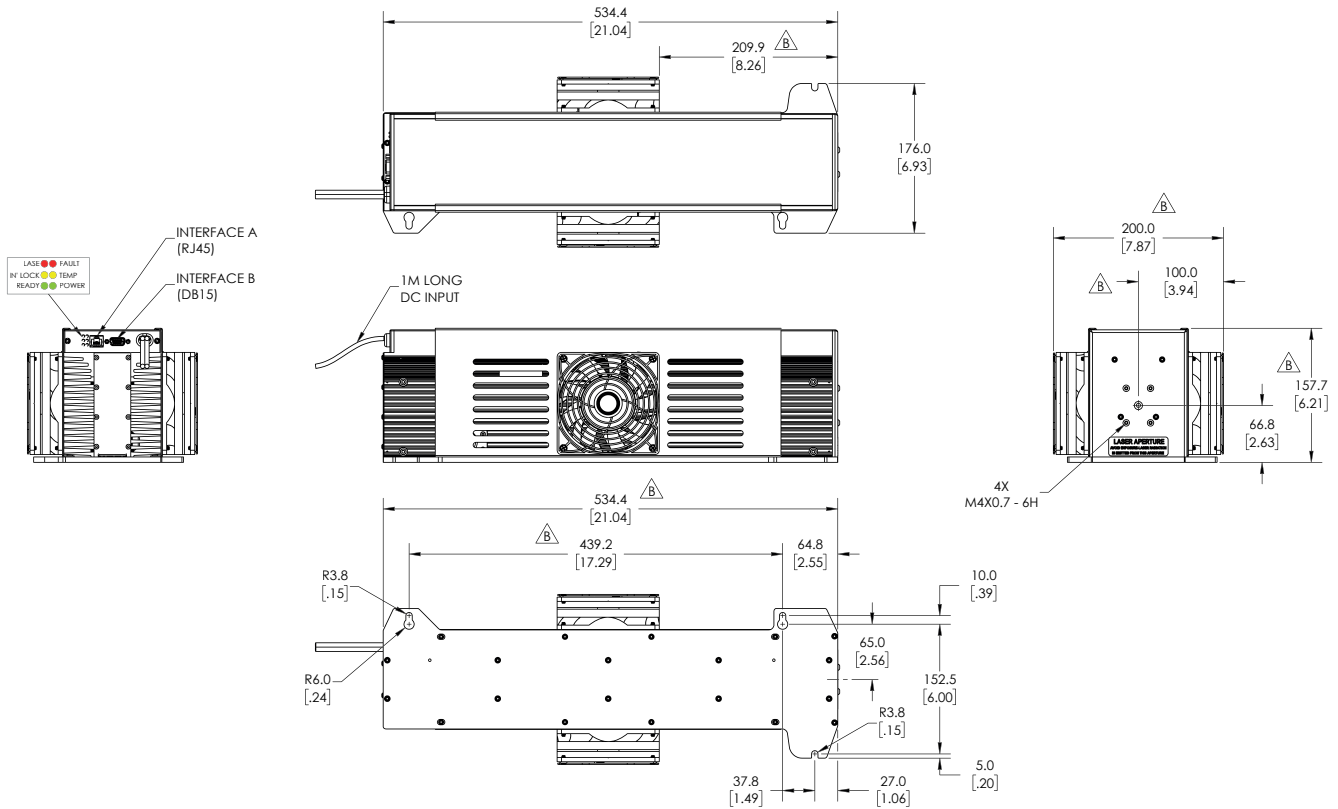
Cooling and ambient					
Cooling	fan / water	fan / water	fan / water	water	water
Input power/heat load	900 W	1000 W	1125 W	1440 W	1500 W
Operating temperature	5 °C – 40 °C / 40 °F – 104 °F	5 °C – 40 °C / 40 °F – 104 °F	5 °C – 40 °C / 40 °F – 104 °F	5 °C – 40 °C / 40 °F – 104 °F	5 °C – 40 °C / 40 °F – 104 °F
Operating humidity	non-condensing	non-condensing	non-condensing	non-condensing	non-condensing
Shipping temperature	-10 °C – 60 °C / 14 °F – 140 °F	-10 °C – 60 °C / 14 °F – 140 °F	-10 °C – 60 °C / 14 °F – 140 °F	-10 °C – 60 °C / 14 °F – 140 °F	-10 °C – 60 °C / 14 °F – 140 °F

Dimensions and weights					
Dimensions laser head (L × W × H)	534.4 mm × 200.0 mm × 157.7 mm (water-cooled width: 176.0 mm)	534.4 mm × 200.0 mm × 157.7 mm (water-cooled width: 176.0 mm)	534.4 mm × 200.0 mm × 157.7 mm (water-cooled width: 176.0 mm)	534.4 mm × 200.0 mm × 157.7 mm (water-cooled width: 176.0 mm)	534.4 mm × 200.0 mm × 157.7 mm (water-cooled width: 176.0 mm)
Weight laser head	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.

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, $\pm (P_{\max} - P_{\min}) / (P_{\max} + P_{\min})$ after the laser warm up period of (5 minutes).

All values measured after laser warm-up. Luxinar follows a policy of continuous product improvement. All specifications are subject to change without notice. Luxinar Holding GmbH is DIN EN ISO 9001 certified. Rev. 1.0, 08 / 2026 | 903-0328-00

Technical drawings



> Industrial lasers
that last