

Eternity | CO₂ lasers

Compact and high performance



Compact footprint

Easy integration and best application results



Unmatched longevity

No laser gas degradation for exceptional power stability.



Superior beam quality

Consistent power stability for precise processing.

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.

Exceptional Ceramicore® performance

Powerful with a small footprint

The Eternity series represents our smallest laser tubes. Built with our patented Ceramicore® technology, these CO₂ lasers are available as 25, 30, 40, 50, 60 and 70-Watt models.

They provide superior performance, particularly for compact platforms. Enhance your automated web systems, laser scanner modules, and small workstations with excellent process repeatability.

Benefits

Superior stability and precision

Ceramicore® laser tubes produce reliable and stable maximum rated power levels as well as minimum power levels for heat sensitive applications. Unlike conventional CO₂ lasers that lose stability under 10 % power settings, the Eternity series operates down to 2 % without any loss of power stability.

The Eternity series exhibits exceptional beam quality and pointing stability ensuring precise processing of materials. Compared to conventional glass or metal laser tubes, our patented Ceramicore® technology provides exclusive processing benefits.

Applications

CO₂ laser tubes for your application needs

A wide range of industries including automotive, electronics, identification marking or coding, retail packaging, food packaging, job shop production and industrial manufacturing have employed Eternity lasers for:

- Cutting / perforating
- Marking / coding
- Engraving / etching
- Wire stripping
- Fiber optic splicing
- Medical surgery

Advantages

Excellent beam stability

Get better process results with the Eternity series and enjoy the following advantages:

- Compact footprint, easy to integrate
- 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

Eternity

Laser			
Model	E25	E30	E40
Central wavelength	9.3 μm	10.2 μm, 10.6 μm	10.2 μm, 10.6 μm, 11.2 μm
Laser performance			
Nominal power	25 W	30 W	40 W
Beam quality	$M^2 \leq 1.2$	$M^2 \leq 1.2$	$M^2 \leq 1.2$
Beam ellipticity	<1.2:1	<1.2:1	<1.2:1
Fall time	< 90 μs	< 90 μs	< 90 μs
Power stability*, fan	< ± 5 %	< ± 5 %	< ± 5 %
Laser beam propagation			
Beam diameter, 1/e ² @ 0 m	2.5 ± 0.5	2.5 ± 0.5	2.5 ± 0.5
Beam divergence (full angle)	8 ± 1 mrad	8 ± 1 mrad	8 ± 1 mrad
Polarization	random	random	random
Operating specifications			
Input voltage, current	48 V / 15 A	48 V / 12 A	48 V / 15 A
Frequency range	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
Input power/heat load	720 W	580 W	720 W
Operating temperature	5 °C – 35 °C / 40 °F – 95 °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
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
Dimensions and weights			
Dimensions laser head (L × W × H)	324.8 mm × 199.2 mm × 138.4 mm (water-cooled width: 116.46 mm)	324.8 mm × 199.2 mm × 138.4 mm (water-cooled width: 116.46 mm)	324.8 mm × 199.2 mm × 138.4 mm (water-cooled width: 116.46 mm)
Weight laser head	9 kg / 20 lbs.	9 kg / 20 lbs.	9 kg / 20 lbs.

Specifications

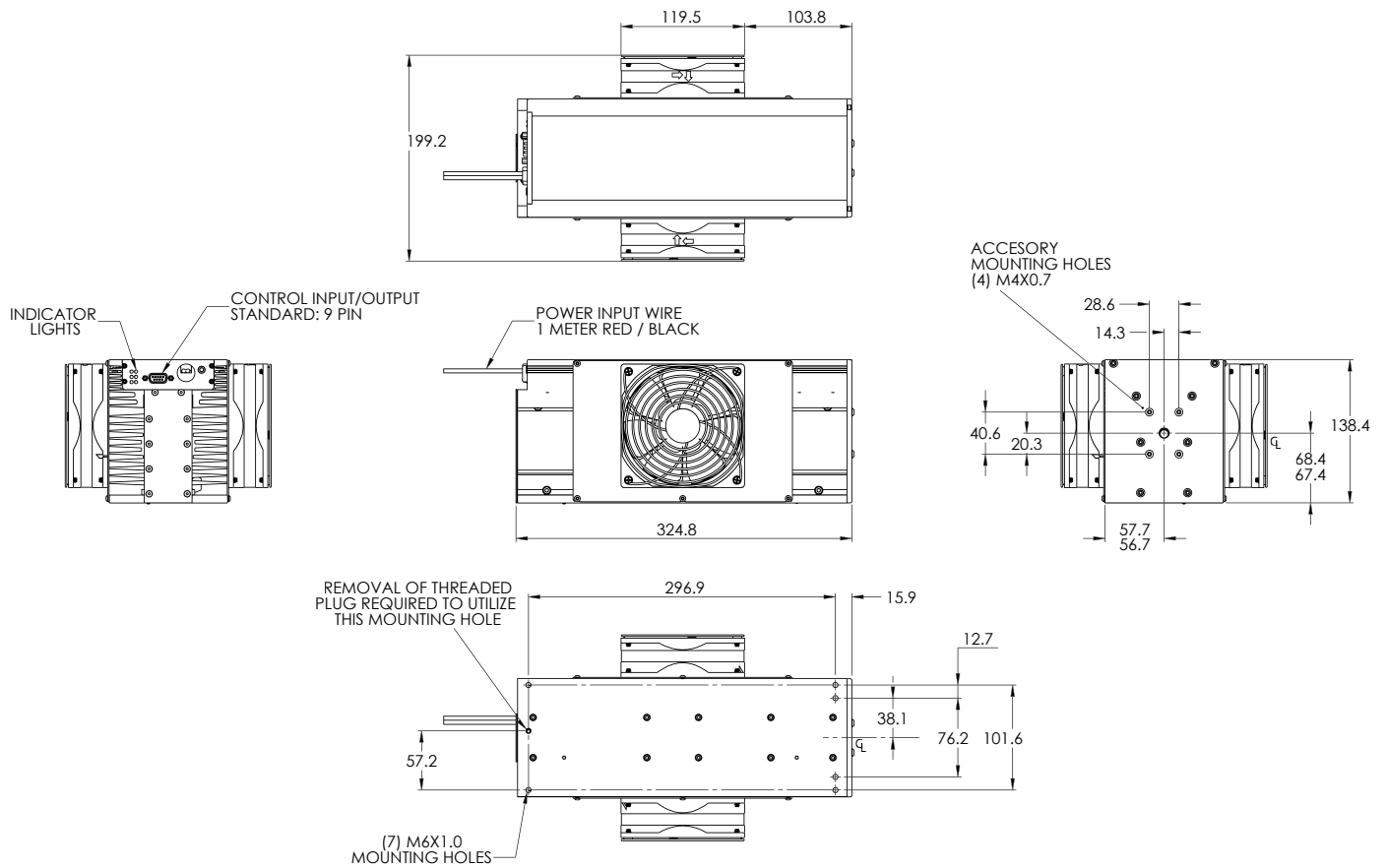
Eternity

Laser			
Model	E50	E60	E70
Central wavelength	10.2µm, 10.6µm	10.6µm	10.6µm
Laser performance			
Nominal power	50 W	60 W	70 W
Beam quality	$M^2 \leq 1.2$	$M^2 \leq 1.2$	$M^2 \leq 1.2$
Beam ellipticity	<1.2:1	<1.2:1	<1.2:1
Fall time	< 90 µs	< 90 µs	< 90 µs
Power stability*, fan	< ± 5 %	< ± 5 %	< ± 5 %
Laser beam propagation			
Beam diameter, 1/e ² @ 0 m	2.5 ± 0.5	2.5 ± 0.5	2.5 ± 0.5
Beam divergence (full angle)	8 ± 1 mrad	8 ± 1 mrad	8 ± 1 mrad
Polarization	random	random	random
Operating specifications			
Input voltage, current	48 V / 18 A	48 V / 19 A	48 V / 19 A
Frequency range	0.1 kHz – 140 kHz	0.1 kHz – 140 kHz	0.1 kHz – 140 kHz
Cooling and ambient			
Cooling	fan / water	fan / water	water
Input power/heat load	870 W	915 W	915 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
Operating humidity	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
Dimensions and weights			
Dimensions laser head (L × W × H)	324.8 mm × 199.2 mm × 138.4 mm (water-cooled width: 116.46 mm)	324.8 mm × 199.2 mm × 138.4 mm (water-cooled width: 116.46 mm)	324.8 mm × 116.46 mm × 138.4 mm
Weight laser head	9 kg / 20 lbs.	9 kg / 20 lbs.	5.5 kg / 12 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, 09 / 2026 | 903-0328-00

Technical drawings



> Industrial lasers
that last