



KT100

KT150

KT200

LightWAVE®

Industrial CO₂ Lasers



Laser

Characteristics

- Liquid Cooled
- RF Excited
- Wide Operating Power Range
- Exceptional Power Stability $\pm 5\%$
- Fast Rise and Fall Time $< 50 \mu\text{sec}$
- Pulsed Up to 200 kHz
- Under 50 lbs.

Standard Features

- All Metal Sealed Laser Tube
- Integrated Red Beam
- Internally Collimated
- Circular Polarized
- Integrated RF
- Common Footprint
- Overbuilt Electronics
- Other Wavelengths Available
- Manufactured in the USA

LASER CHARACTERISTICS

OUTPUT POWER ¹	≥ 100 watts	≥ 150 watts	≥ 200 watts
POWER RANGE	0-100 watts	0-150 watts	0-200 watts
PEAK POWER ²	≥ 300 watts	≥ 350 watts	≥ 400 watts
DUTY CYCLE RANGE	0-40%	0-60%	0-75%
POWER STABILITY	±5%	±5%	±5%
MAXIMUM PULSE ENERGY ³	200 mJ	450 mJ	750 mJ
PULSE LENGTH	≤ 2.0 ms	≤ 3.0 ms	≤ 3.75 ms
PULSE RISE/FALL TIME		< 50 μs	
MODE QUALITY		M ² < 1.2	
BEAM DIAMETER AT LASER OUTPUT	0.24" ± 0.04" (6.0 mm ± 1.0 mm)		
BEAM DIVERGENCE (FULL ANGLE) ⁴	< 2.5 mrad		
POLARIZATION ⁴	Circular		
MODULATION FREQUENCY	200 Hz to 200 kHz		
WAVELENGTH	10.6 μm		

PHYSICAL CHARACTERISTICS

WEIGHT	48.5 lbs. [22 kg]		
DIMENSIONS	35" x 7" x 7.25" [889 x 178 x 184 mm]		

ELECTRICAL REQUIREMENTS

DC INPUT VOLTAGE	48 V		
DC MAXIMUM CURRENT	63 A		
DC CONTINUOUS CURRENT	< 35 A	< 45 A	< 55 A

COOLING REQUIREMENTS⁵

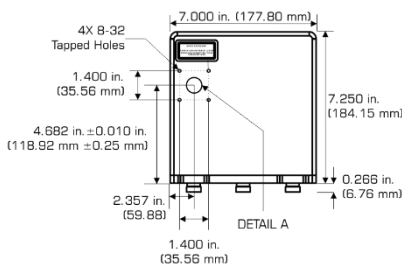
HEAT LOAD	1.6 kW	2.0 kW	2.4 kW
FLOW RATE	≥ 1.5 GPM (≥ 6 L/min)		
PRESSURE	< 60 PSI		
COOLANT	Distilled water with corrosion inhibitor		
COOLANT SETPOINT TEMP.	68°F		
COOLANT TEMP. STABILITY (MAX)	± 3°F (± 1.5°C)		

ENVIRONMENTAL CONDITIONS

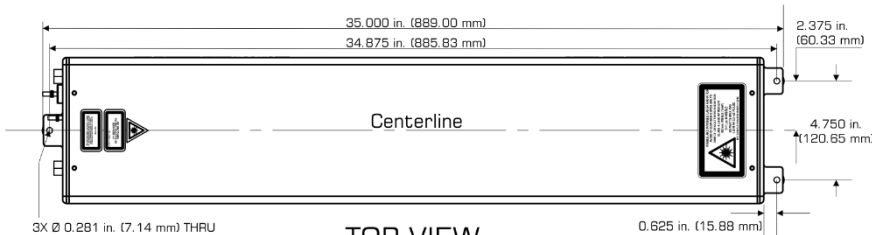
AMBIENT TEMP. RANGE	50°F - 100°F [10°C - 38°C]		
RELATIVE HUMIDITY	< 95% non-condensing		

MECHANICAL SPECIFICATIONS

FRONT VIEW



TOP VIEW



¹ Measured at maximum duty cycle and a 5 kHz pulse repetition frequency (prf).
² Measured at 10% duty cycle at 1 kHz prf.
³ Maximum pulse energy at rated power.
⁴ Internally collimated and circularly polarized.
⁵ Refer to the manual for details.



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Disclaimer

The laser is a component of a laser system. It is the responsibility of the OEM to provide all required laser safety features. Check with CDRH for safety requirements. Do not operate laser without proper safety training. The laser parameters listed within this sheet are subject to change without notice.