



KT250P

LightWAVE

Industrial CO₂ Lasers



Laser

Characteristics

- Pulse Performance Package
 - Enhanced RF Power Supply
 - Superior Rise/Fall Time
 - High Peak Power
 - Reduced Heat-Affected Zone
 - High Quality Processed Edge
- Super Pulsed through Quasi-CW
- Liquid Cooled
- Under 50 lbs.

Standard Features

- Metal Sealed Laser Cavity
- Integrated Red Beam
- Internally Collimated
- Integrated RF
- Common Footprint
- Overbuilt Electronics
- Manufactured in the USA

LASER CHARACTERISTICS

WAVELENGTH ¹ (μm)	10.6	
OUTPUT POWER ² (W)	≥250	
POWER RANGE (W)	10-250	
TYPICAL PEAK POWER ³ (W)	800	
DUTY CYCLE RANGE (%)	≤65%	
POWER STABILITY ⁴ (%)	±5%	
MAXIMUM PULSE ENERGY (mJ)	>810	
PULSE LENGTH (mS)	≤3.25	
PULSE RISE/FALL TIME (μs)	40/60	
MODE QUALITY	M ² < 1.2	
BEAM ELLIPTICITY	<1.2	
BEAM DIAMETER AT LASER OUTPUT	0.12" ±0.02" (3.0 mm ±0.5 mm)	0.24" ±0.02" (6.0 mm ±0.5 mm)
BEAM DIVERGENCE (FULL ANGLE) (mrad)	<5	<2.5
POLARIZATION	Vertical (perpendicular to baseplate)	
MODULATION FREQUENCY (kHz)	0.2 to 200	

PHYSICAL CHARACTERISTICS

WEIGHT	48.5 lbs. [22 kg]	
DIMENSIONS	35.45" x 7" x 7.25" [900 x 178 x 184 mm]	

ELECTRICAL REQUIREMENTS

DC INPUT VOLTAGE (V)	56	
DC PEAK CURRENT (A)	120	
DC CONTINUOUS CURRENT (A)	<70	

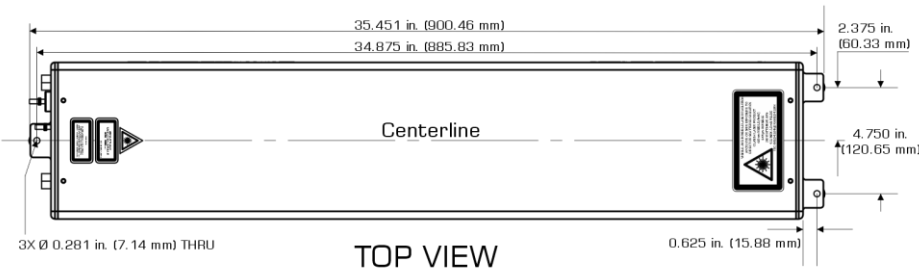
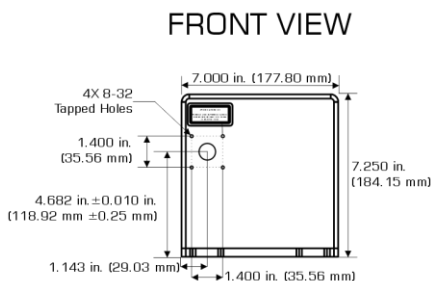
COOLING REQUIREMENTS⁵

HEAT LOAD (kW)	3.6	
FLOW RATE	≥2.0 GPM (≥7.6 L/min)	
COOLANT MAXIMUM PRESSURE (PSI)	90	
COOLANT	Distilled water with corrosion inhibitor	
COOLANT SETPOINT TEMP. RANGE	68°F - 77°F (20°C - 25°C)	
COOLANT TEMP. STABILITY (MAX)	±1°F (±0.5°C)	

ENVIRONMENTAL CONDITIONS

AMBIENT TEMP. RANGE	50°F - 100°F [10°C - 38°C]	
RELATIVE HUMIDITY ⁵	Non-Condensing	
ALTITUDE	≤6500 ft. (2000 m)	

MECHANICAL SPECIFICATIONS



¹ Other wavelengths available upon request.
² Measured at maximum duty cycle and a 5 kHz pulse repetition frequency (PRF).
³ Measured at 10% duty cycle at 1 kHz PRF.
⁴ Power stability may not be met at low duty cycle or acoustic PRF.
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.