



KT100

KT150

KT200

LightWAVE®

Industrial CO<sub>2</sub> Lasers



## Laser

### Characteristics

- Liquid Cooled
- RF Excited
- Wide Operating Power Range
- Exceptional Power Stability
- Fast Rise and Fall Time
- Pulsed up to Quasi-CW

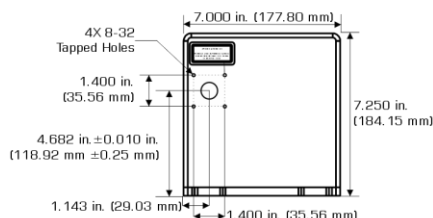
### Standard Features

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

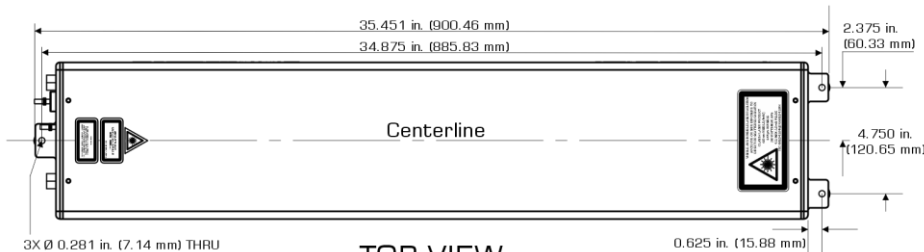
| LASER PARAMETERS                    |  | KT100-9.3                                | KT100-10.6 | KT150-9.3 | KT150-10.6 | KT200-9.3 | KT200-10.6 |
|-------------------------------------|--|------------------------------------------|------------|-----------|------------|-----------|------------|
| WAVELENGTH (μm)                     |  | 9.3                                      | 10.6       | 9.3       | 10.6       | 9.3       | 10.6       |
| OUTPUT POWER <sup>1</sup> (W)       |  | ≥100                                     | ≥100       | ≥150      | ≥150       | ≥200      | ≥200       |
| POWER RANGE (W)                     |  | 10-100                                   | 10-100     | 10-150    | 10-150     | 10-200    | 10-200     |
| TYPICAL PEAK POWER <sup>2</sup> (W) |  | ≥400                                     | ≥400       | ≥400      | ≥400       | ≥400      | ≥400       |
| DUTY CYCLE RANGE (%)                |  | ≤40                                      | ≤40        | ≤60       | ≤60        | ≤75       | ≤75        |
| POWER STABILITY <sup>3</sup> (%)    |  | ±5                                       | ±5         | ±5        | ±5         | ±5        | ±5         |
| MAXIMUM PULSE ENERGY (mJ)           |  | >200                                     | >200       | >450      | >450       | >750      | >750       |
| PULSE LENGTH (mS)                   |  | ≤2.0                                     | ≤2.0       | ≤3.0      | ≤3.0       | ≤3.75     | ≤3.75      |
| PULSE RISE/FALL TIME (μs)           |  | <50                                      |            |           |            |           |            |
| MODE QUALITY                        |  | M <sup>2</sup> < 1.2                     |            |           |            |           |            |
| BEAM ELLIPTICITY                    |  | <1.2                                     |            |           |            |           |            |
| BEAM DIAMETER AT LASER OUTPUT       |  | 0.24" ±0.04" (6.0 mm ±1.0 mm)            |            |           |            |           |            |
| BEAM DIVERGENCE - FULL ANGLE (mrad) |  | <2.5                                     |            |           |            |           |            |
| POLARIZATION                        |  | Circular or Linear                       |            |           |            |           |            |
| MODULATION FREQUENCY (kHz)          |  | 0.2 to 200                               |            |           |            |           |            |
| PHYSICAL CHARACTERISTICS            |  |                                          |            |           |            |           |            |
| WEIGHT                              |  | 50 lbs. (23 kg)                          |            |           |            |           |            |
| DIMENSIONS                          |  | 35.45" x 7" x 7.25" (900 x 178 x 184 mm) |            |           |            |           |            |
| ELECTRICAL REQUIREMENTS             |  |                                          |            |           |            |           |            |
| DC INPUT VOLTAGE (V)                |  | 48                                       |            |           |            |           |            |
| DC PEAK CURRENT (A)                 |  | 75                                       |            |           |            |           |            |
| DC CONTINUOUS CURRENT (A)           |  | <35                                      |            | <45       |            | <55       |            |
| COOLING REQUIREMENTS <sup>4</sup>   |  |                                          |            |           |            |           |            |
| HEAT LOAD (kW)                      |  | 1.6 kW                                   |            | 2.0 kW    |            | 2.4 kW    |            |
| FLOW RATE                           |  | ≥1.5 GPM (≥5.7 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             |  | ±1°F (±0.5°C)                            |            |           |            |           |            |
| ENVIRONMENTAL CONDITIONS            |  |                                          |            |           |            |           |            |
| AMBIENT TEMP. RANGE                 |  | 50°F - 100°F (10°C - 38°C)               |            |           |            |           |            |
| RELATIVE HUMIDITY <sup>4</sup>      |  | Non-Condensing                           |            |           |            |           |            |
| ALTITUDE                            |  | ≤6500 ft. (2000 m)                       |            |           |            |           |            |

## MECHANICAL SPECIFICATIONS

## FRONT VIEW



## TOP VIEW



## 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.

<sup>1</sup> Measured at maximum duty cycle and a 5 kHz pulse repetition frequency (PRF).

<sup>2</sup> Measured at 10% duty cycle at 1 kHz PRF.

<sup>3</sup> Power stability may not be met at low duty cycle or acoustic PRF.

<sup>4</sup> Refer to the manual for details.



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