

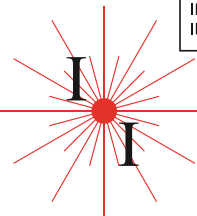
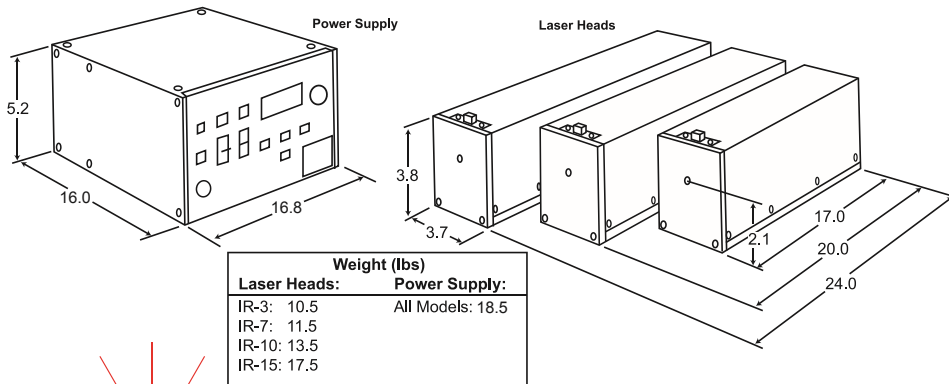
IR Series CO₂ Waveguide Lasers

Specification (general)	Model Number			
	IR-3	IR-7	IR-10	IR-15
Output power (watts)	3.0	7.0	10.0	15.0
Output Wavelength (microns)	9.3-10.7*	9.3-10.7*	9.3-10.7*	9.3-10.7*
Beam Diameter (1/e ² point) (mm)	1.5	1.5	1.75	1.9
Beam Divergence (full angle) (mrad)	8.8	8.8	7.6	7.0
Polarization*	Linear, Wavelength dependent			
Fresnel Number	0.54	0.54	0.57	0.50
Free Space Mode	TEM ₀₀ **			
Gain Linewidth (FWHM) (MHz)	425	425	340	315
Gain Length (in)	4.2	8.5	10.0	14.0
Cavity Length (in)	5.6	10.4	11.9	15.9
Free Spectral Range (MHz)	628	600	500	375
Amplitude Stability	<1 hour ± 2%, > 1 hour ± 3%			
Input Power (watts)	100/120/150/230 VAC, 50/60 Hz (70/130/160/200)			
Cooling (A=Air W=Water)	W	A or W	A or W	W

*The nominal wavelength without tuning is 10.6 microns, single line. Tuning requires an optional grating configuration. Either vertical or horizontal polarization is available for all models.

**Occasional donut mode occurs during temperature cycling.

NOTE: All specifications subject to change without prior notification.



INFRARED INSTRUMENTS

P.O. BOX 1012
 SAN MARCOS, CA 92079
 TEL: 760-599-6650
 E-mail: sales@infraredinstruments.com
 www.infraredinstruments.com

IR Series CO₂ Waveguide Lasers



The lasers described in the brochure represent a unique and exciting advance in state-of-the-art laser design. Infrared Instruments is well-known for its ultra stable, long-lived; compact CO₂ and CO lasers. Located in San Marcos, California, Infrared Instruments designs, develops and manufactures rugged, reliable laser systems which provided a new level of convenience in operation and performance.

Our company is committed to the design and manufacture of a wide range of specialized lasers to the OEM, as well as for custom end-user applications. Our sealed-off design offers a cost effective laser well-suited for the most demanding applications. Infrared Instruments lasers offers the user a wide selection of operating output powers and wavelengths. These lasers can be reprocessed and refilled, offering years of reliable performance. All critical laser components undergo a 100% QC inspection. Each system is burned in for a minimum of 100 hours before shipping as a complete set of dedicated components. You can receive an IR Series CO₂ and CO waveguide laser with the same high level of confidence that we have in shipping it to you.

Features

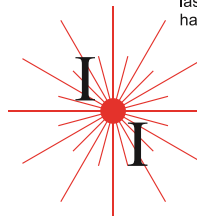
- TEM₀₀
- Hard Sealed optics
- Minimum 10 line tunability
- Water cooled
- Heater stabilization (optional)
- Switching mode, DC high voltage power supply
- State-of-the-art design

Benefits

- Excellent amplitude stability
- Compact, efficient design
- Power output to 20 watts
- Portable, light-weight system
- No optical alignment required

Applications

- Cutting and drilling of: plastics, ceramics, wood, and paper
- Medical Applications
- LIDAR
- Infrared Sensing
- Interferometry
- Spectroscopy



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