

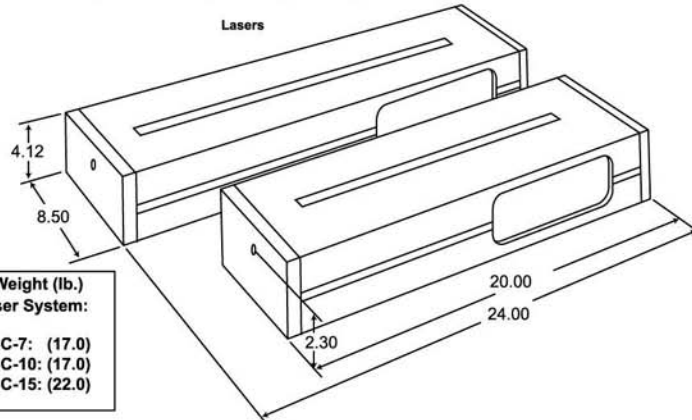
## IRSC Series CO<sub>2</sub> Waveguide Lasers

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



\*The nominal wavelength without tuning is 10.6 microns, single line. Tuning requires an optional grating configuration. Only vertical polarization option is available for all tunable grating models.

\*\*Occasional donut mode occurs during temperature cycling.  
NOTE: All specifications subject to change without prior notification.



### INFRARED INSTRUMENTS

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## IRSC Series CO<sub>2</sub> 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 CO<sub>2</sub> 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 IRSC Series CO<sub>2</sub> and CO waveguide laser with the same high level of confidence that we have in shipping it to you.

#### Features

- TEM<sub>00</sub>
- Hard Sealed optics
- Minimum 10 line tunability
- Water cooled
- 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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