

# Air-Cooled Argon-Ion Laser Heads in Cylindrical Package

2213 Series



Lumentum's air-cooled argon lasers are designed for complex, high-resolution OEM applications such as flow cytometry, DNA sequencing, graphic arts, and semiconductor inspection.

Symmetric design and axial airflow in the cylindrical argon ion laser heads provide the best mechanical package to ensure optimum beam-pointing stability and fast warm-up. Both initial installation and routine maintenance are straightforward due to tight production control of optical and mechanical tolerances. Blower-induced mechanical vibration is virtually eliminated through the use of flexible ducting between the laser head and blower assembly.

#### **Key Features**

- Integral-mirror, metal-ceramic construction
- Hands-off operation
- Ultralow noise
- Fast warm-up
- Rugged construction
- Vibration isolation
- Ultrastable resonator and beam pointing

#### **Applications**

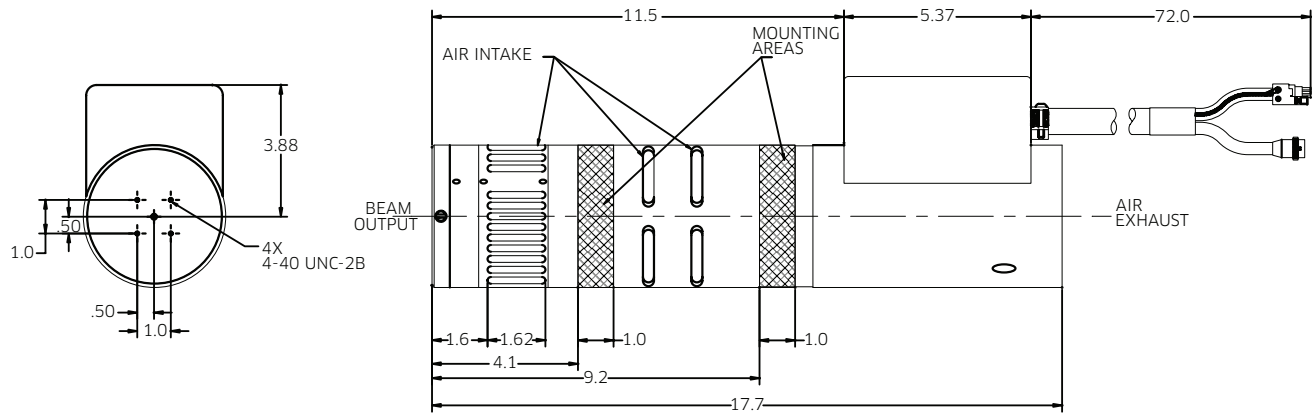
- DNA sequencing
- Flow cytometry
- Confocal microscopy
- Semiconductor inspection
- Hematology
- High-speed printing
- Photo processing

#### **Compliance**

- CE per specification EN55011 and EN50082-2
- UL 1950 and 1262
- CDRH 21 CFR 1040.10
- CUL
- EN60825-2
- EN60950, IEC 950 and EN61010

### 2213 Series Cylindrical Head

(Specifications in inches unless otherwise noted. E-vector is aligned with the umbilical cable.)



**Specifications**

Parameter	2213 -75SL
<b>Optical</b>	
Output power (TEM <sub>00</sub> , mW)	75
Wavelength (nm)	488
Mode purity (TEM <sub>00</sub> )	>95%
Beam diameter (1/e <sup>2</sup> ±5%, mm)	0.65
Beam divergence (mrad±5%)	0.95
Minimum polarization ratio	>250:1
Longitudinal mode spacing (MHz)	444
Noise	
p-p, 20 Hz to 2 kHz	≤0.1%
p-p, 20 Hz to 20 kHz	≤1.0%
rms, 20 Hz 2 MHz	≤1.0%
Maximum drift (light control mode over 2 hours)	≤1.0%
Maximum warm-up time	15 minutes
Beam pointing stability after warm-up (2 hours, 25±3°C)	<30 μRad
CDRH class	IIIb
Static alignment	
Beam position	±0.25 mm
Beam angle	±2.5 mrad
<b>Environmental</b>	
Temperature	
Operating	4 to 40°C
Non-operating	-30 to 60°C
Altitude	
Operating	0 to 10,000 feet
Non-operating	0 to 70,000 feet
Relative humidity (non-condensing)	
Operating	0 to 90%
Non-operating	0 to 100%
Shock	
Operating	25 g for 11 ms
Non-operating	25 g for 11 ms
<b>Physical</b>	
Weight	14 lbs.
Umbilical length	72±2 inches

Note:  
Nominal airflow is 115 CFM. Use model 1NB412 McLean Engineering or equivalent fan rated for 185 CFM free air and typical pressure head of 1.8 inches of water.

**Ordering Information**

For more information on this or other products and their availability, please contact your local Lumentum account manager or Lumentum directly at [customer.service@lumentum.com](mailto:customer.service@lumentum.com).

**Sample: 2213-75SL**

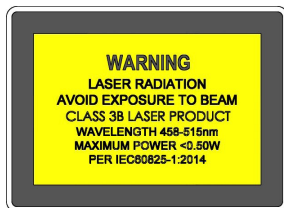
Product Code	Description
2213-75SL	Argon laser head, cylindrical package, 75 mW output power, single line operation at 488 nm

**Warranty**

The 2213 laser tubes are warranted to be free from defects in materials and workmanship for 5,000 hours of operation at or below specified power, or for 12 months from the date of shipment, whichever occurs first. All other components of the laser and power supply are warranted to be free from defects and workmanship for 12 months from the date of shipment.

### Regulatory Compliance

The products listed in this datasheet comply with one or more of the following regulatory standards, and may display one or more of the safety labels shown below. Contact your local Lumentum sales representative for additional information on specific products or configurations.



Laser safety warning label



North America  
Toll Free: 844 810 LITE (5483)

Outside North America  
Toll Free: 800 000 LITE (5483)

China  
Toll Free: 400 120 LITE (5483)

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