

## vi SERIES CO<sub>2</sub> LASER DATA SHEET

# INDUSTRY LEADING LASER WITH MORE THAN 30/40 W OF AVERAGE POWER FOR MARKING, ENGRAVING AND ABLATING

Next gen high performance CO<sub>2</sub> laser with customer-inspired features. The vi40 provides real-time temperature measurements of the laser's interior transmitted on user output line intervals of 250 ms for operating conditions feedback. The vi30+ includes an extended 2-year standard warranty period through a network of Novanta Service Centers.

### RECOMMENDED APPLICATIONS



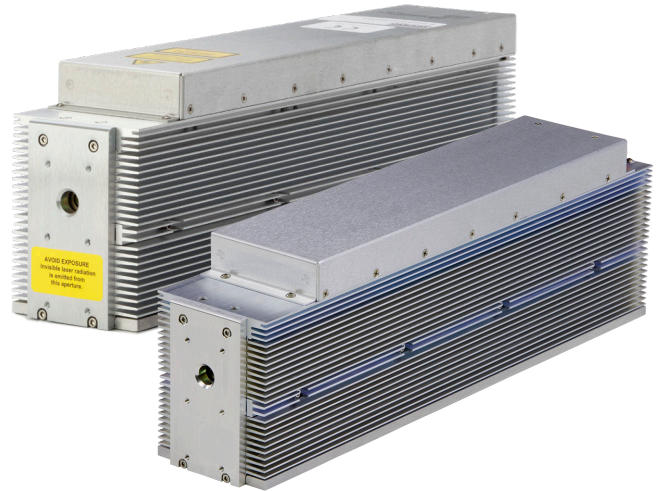
Small footprint, light weight, and high resolution imagery engineered to fit a wide variety of automated manufacturing systems.



Powerful, accurate laser output that can be used on a wide variety of materials.



Stable operation over a wide range of settings enables precise control of material removal, allowing consistent ablation depth or detailed 3D engraving.



### ENGINEERED FOR SEAMLESS INTEGRATION INTO HIGH-SPEED INDUSTRIAL EQUIPMENT

- Excellent thermal management delivers stable, high-power output and crisp beam quality for precise processing
- Fast rise/fall times enable high speed engraving, marking, and coding applications for high-volume manufacturers and processors
- Real-time condition monitoring (vi40) with an industry first temperature broadcast feature to avoid unexpected downtime and costly system repairs
- Multiple cooling options (vi30+) for greater integration flexibility
- Large dynamic range for marking and coding a wide variety of materials with stable power output, even at low duty cycles
- Multiple wavelength options (vi30+) to accommodate a wide range of material processing
- Uniform results from machine start through laser warm-up with excellent power stability
- Compact and lightweight, easily fits into tight spaces and onto weight sensitive systems

## vi SERIES CO<sub>2</sub> LASER SPECIFICATIONS

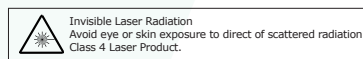
Output Specifications	vi40	vi30+		
Wavelength	10.6 μm	9.3 μm	10.2 μm	10.6 μm
Output Power <sup>1</sup>	> 40 W	> 20 W	> 25 W	> 30 W
Power Stability (typical, after 3 min.)	± 3%	± 5%	± 3%	
Power Stability (cold start) <sup>2</sup>	± 5%	± 7%	± 5%	
Beam Quality (M <sup>2</sup> )	< 1.2	< 1.2		
Beam Diameter <sup>3</sup>	2.5 mm ± 0.5 mm	2.5 mm ± 0.5 mm		
Divergence (full angle)	< 7.0 mrad	< 7.0 mrad		
Ellipticity	< 1.2	< 1.2		
Polarization	Linear (Horizontal)	Linear (Horizontal)		
Rise Time	< 100 μs	< 100 μs		
Operating Frequency	0 - 100 kHz	0 - 100 kHz		
Power Supply				
DC Voltage Input	48 VDC	48 VDC		
Maximum Current	15 A	10 A		
Cooling				
Maximum Heat Load	680 W	400 W		
Coolant Temperature	< 40° C (air)	< 60° C		
Minimum Flow Rate	190 CFM, 2 required (air)	140 CFM, 2 required (air) 4.0 GPM, < 60 PSI (water)		
Environmental				
Operating Ambient Temperatures	15 - 45° C	15 - 40° C		
Maximum Humidity	95%, non-condensing	95%, non-condensing		
Physical				
OEM Air Cooled Dimensions (LxWxH) mm (inches)	427 x 89 x 139 (16.8 x 3.5 x 5.5)	427 x 89 x 139 (16.8 x 3.5 x 5.5)		
Weight kg (lbs.)	6.7 kg (14.8 lbs.)	6.5 kg (14.3 lbs.)		

1 - Power level guaranteed for 1 year from date of shipment, regardless of operation hours, within recommended coolant flow rate and temperature range.

2 - Measured from cold start as  $\pm(P_{\max} - P_{\min}) / (P_{\max} + P_{\min})$

3 - Measured 1/e<sup>2</sup> diameter at laser output.

Please see the manual for the full list of specifications and associated measurement conditions.



Dimensions are in mm (inches)

[illegible]

6x 8-32 UNC ACCESSORY MOUNTING HOLES: 4X SCREWS SHOULD NOT EXTEND MORE THAN 4.83 (1/8) INTO FACE PLATE, 2X 2.54 (1/8) FOR HOLES MARKED 'B'

READY (AMBER) POWER (GRN) CONTROL I/O DC POWER LASER (RED)

NOTES:

- 1 HARDENED BALL MOUNTING POINT, 3X (Ø.1875 BALL BEARING).
- 2 THIS MOUNTING HOLE PATTERN USED FOR BOTTOM ACCESS FASTENING.
- 3 BEAM PATH MAY NOT BE CENTERED OR PERPENDICULAR TO FACE PLATE APERTURE.