

# CARBIDE | CB3-UV

## High-Power UV Femtosecond Lasers



CARBIDE-CB3-UV

Maximum output of 50 W

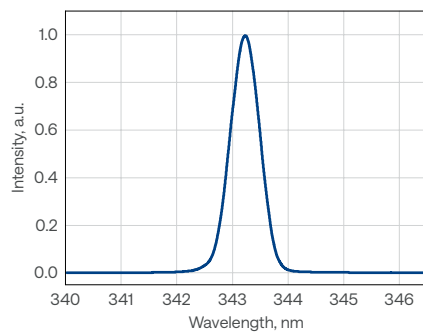
500 fs pulse duration

Up to MHz repetition rate

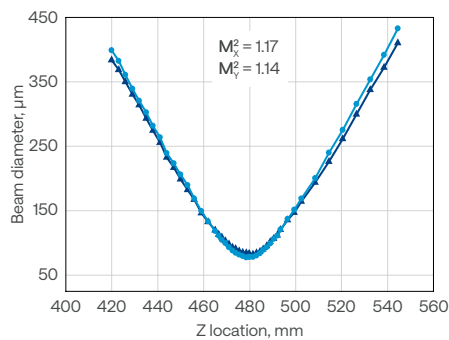
High beam quality  
and stability

Compact industrial-grade  
design

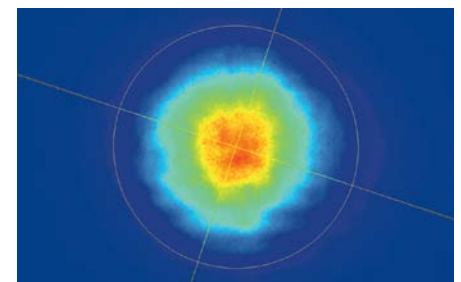
CARBIDE-CB3-UV  
Typical spectrum



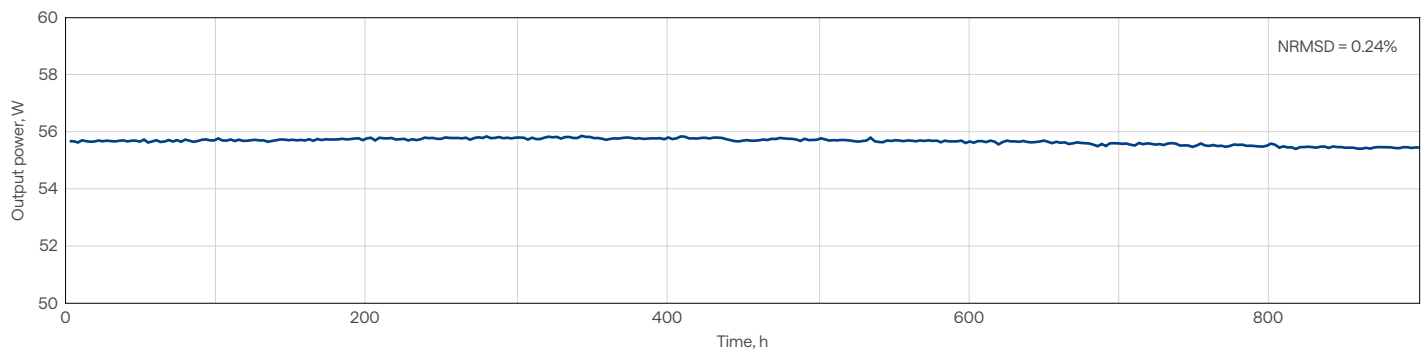
CARBIDE-CB3-UV  
Typical M<sup>2</sup> measurement data



CARBIDE-CB3-UV  
Beam profile



CARBIDE-CB3-UV-50W  
Long-term power stability



# Specifications

Model	CB3-UV-30W	CB3-UV-50W
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## OUTPUT CHARACTERISTICS

Cooling method	Water-cooled	
Center wavelength	343 ± 3 nm	
Output power	> 30 W	> 50 W
Pulse duration <sup>1)</sup>	≈ 500 fs	
Output pulse energy	35 – 150 μJ	
Repetition rate <sup>2)</sup>	200 – 800 kHz	300 – 1000 kHz
Polarization	Linear, vertical; 1 : 200	
Beam quality, M <sup>2</sup> , typical values	< 1.3	
Beam diameter <sup>3)</sup>	2 - 5 mm	
Long-term power stability, 12 h <sup>4)</sup>	< 0.5%	
Lifetime	10000 h	

## MAIN OPTIONS

Optional amplifier outputs	1030 nm, 515 nm
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## PHYSICAL DIMENSIONS

Laser head (L × W × H)	801 × 350 × 174 mm	
Chiller (L × W × H)	680 × 484 × 307 mm	
24 V DC power supply (L × W × H)	320 × 200 × 75 mm	376 × 449 × 88 mm

## ENVIRONMENTAL AND UTILITY REQUIREMENTS

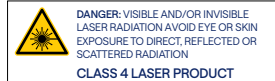
Operating temperature	15 – 30 °C		
Relative humidity	< 80% (non-condensing)		
Electrical requirements	Laser	100 V AC, 12 A – 240 V AC, 5 A; 50 – 60 Hz	100 V AC, 15 A - 240 V AC, 7 A; 50 - 60 Hz
	Chiller	200 – 230 V AC; 50 – 60 Hz	
Rated power	Laser	1000 W	2000 W
	Chiller	2000 W	
Power consumption	Laser	900 W	1500 W
	Chiller	1300 W	1800 W

<sup>1)</sup> Assuming Gaussian pulse shape.

<sup>2)</sup> Repetition rate available up to 2 MHz at lower power.

<sup>3)</sup> FW 1/e<sup>2</sup>, using maximum pulse energy.

<sup>4)</sup> Under stable environmental conditions. Expressed as normalized root mean squared deviation (NRMSD).



# Drawings

## CARBIDE-CB3-UV drawing

