

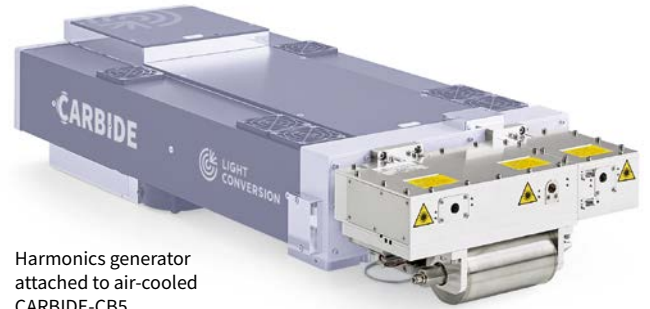
# HG | CARBIDE

## Automated Harmonic Generators

### FEATURES

- 515 nm, 343 nm, or 257 nm output
- Automated harmonic selection
- Mounted directly on the laser head
- Industrial-grade design
- 30 W UV model option

CARBIDE lasers equipped with automated harmonic generators (HGs) provide a selection of fundamental (1030 nm), second (515 nm), third (343 nm), or fourth (257 nm) harmonic outputs using software control.



Harmonics generator attached to air-cooled CARBIDE-CB5

HGs are perfect for industrial applications that require a single-wavelength output. Modules, mounted directly at the output of the laser, are fully integrated into the system.

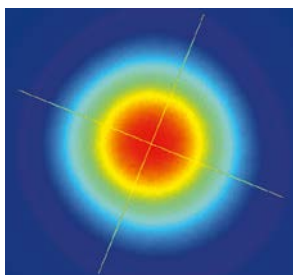
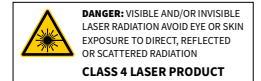
### SPECIFICATIONS

Model	2H	2H-3H	2H-4H	CBM03-30W <sup>1)</sup> <span style="background-color: #e91e63; color: white; padding: 2px;">NEW</span>
Output wavelength <sup>2)</sup> (automated selection)	1030 nm 515 nm	1030 nm 515 nm 343 nm	1030 nm 515 nm 257 nm	1030 nm 515 nm <b>343 nm</b>
Pump pulse energy	20 – 800 μJ	50 – 800 μJ	20 – 800 μJ	< 270 μJ
Pump pulse duration		< 300 fs		≈ 500 fs
Conversion efficiency / Output power	> 50% (2H)	> 50% (2H) > 25% (3H)	> 50% (2H) > 10% (4H) <sup>3)</sup>	40 W (2H) 30 W (3H)
Beam quality (M <sup>2</sup> )	≤ 400 μJ pump	< 1.3 (2H), typical < 1.15	< 1.3 (2H), typical < 1.15 < 1.4 (3H), typical < 1.2	< 1.3 (2H, 3H)
	> 400 μJ pump	< 1.4 (2H)	< 1.4 (2H) < 1.5 (3H)	n/a

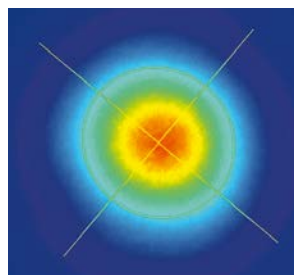
<sup>1)</sup> Available only for CARBIDE-CB3-80W with maximum output power; has 1 year lifetime.

<sup>2)</sup> Depends on pump laser model.

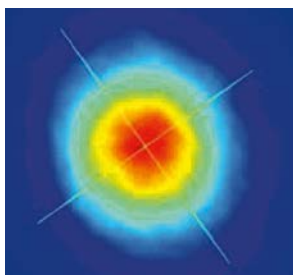
<sup>3)</sup> Maximum output power of 1 W.



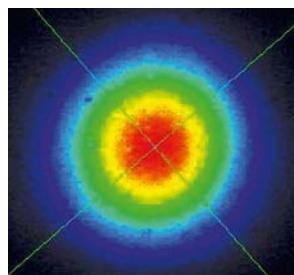
Typical 1H beam profile of CARBIDE-CB5 (60 kHz, 5 W)



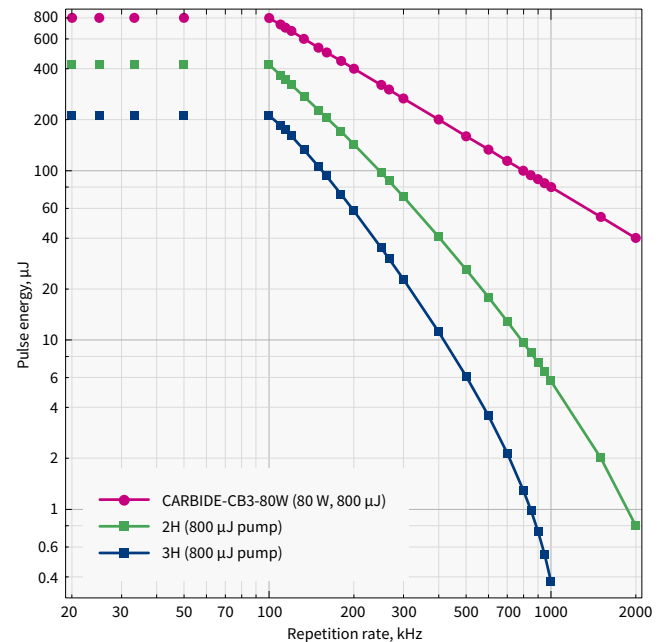
Typical 2H beam profile of CARBIDE-CB5 (100 kHz, 3.4 W)



Typical 3H beam profile of CARBIDE-CB5 (100 kHz, 2.2 W)



Typical 4H beam profile of CARBIDE-CB5 (100 kHz, 100 mW)



Pulse energy vs repetition rate of CARBIDE-CB3-80W with HG