

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

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.



2H-3H HG attached to CARBIDE-CB3 femtosecond laser

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.

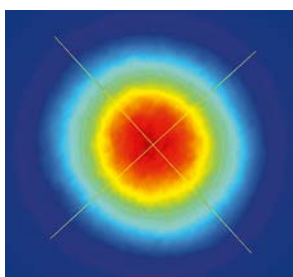
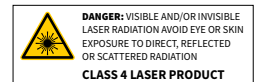
SPECIFICATIONS

Model	2H	2H-3H	2H-4H	2H-3H (30W UV) ¹⁾
Output wavelength ²⁾ (automated selection)	1030 nm 515 nm	1030 nm 515 nm 343 nm	1030 nm 515 nm 257 nm	1030 nm 515 nm 343 nm
Pump pulse energy	20 – 2000 μJ	50 – 2000 μJ	20 – 2000 μJ	80 – 400 μJ
Pump pulse duration		< 300 fs		≈ 500 fs
Conversion efficiency / Output power	> 50% (2H)	> 50% (2H) > 25% (3H)	> 50% (2H) > 10% (4H) ³⁾	40 W (2H) 30 W (3H)
Beam quality (M ²) typical values	≤ 400 μJ pump	< 1.15 (2H)	< 1.15 (2H) < 1.2 (3H)	< 1.2 (2H) < 1.3 (3H)
	> 400 μJ pump	< 1.2 (2H)	< 1.2 (2H) < 1.3 (3H)	n/a

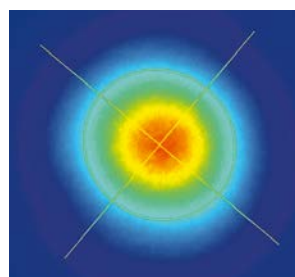
¹⁾ Available only for CARBIDE-CB3-80W with maximum output power; 1 year lifetime.

²⁾ Depends on pump laser model. Up to 5th harmonic available; contact sales@lightcon.com for details.

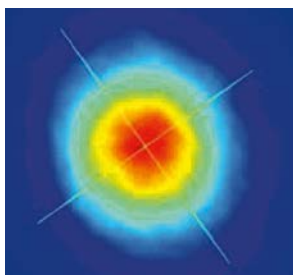
³⁾ Maximum output power of 1 W.



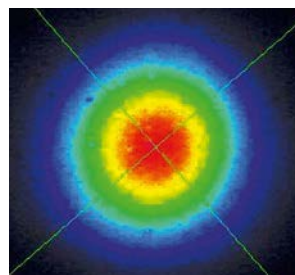
Typical 1H beam profile of CARBIDE-CB5 (100 kHz, 6 W)



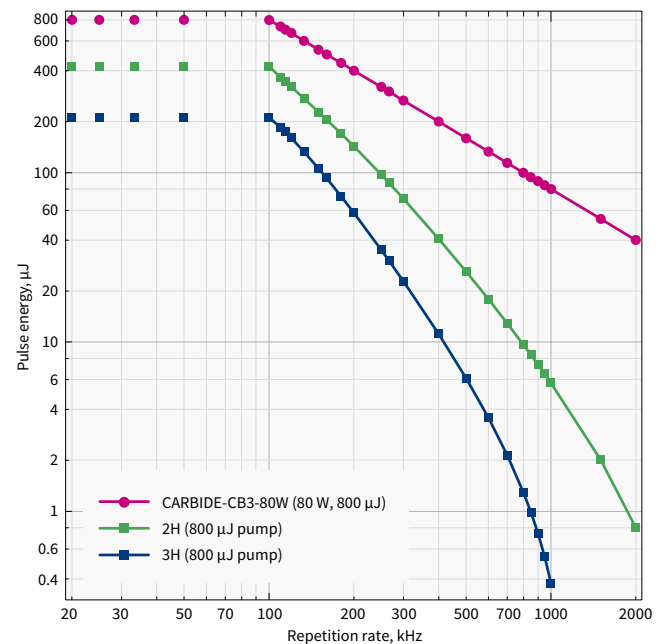
Typical 2H beam profile of CARBIDE-CB5 (100 kHz, 3.4 W)



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