HG | CARBIDE

Automated Harmonic Generators

CARBIDE-CB3 with 2H-3H

FEATURES

- 515 nm, 343 nm, or 257 nm output
- Automated harmonic selection
- Mounted directly on the laser head
- Industrial-grade design
- 50 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.

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.

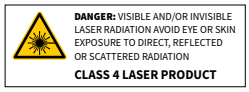
SPECIFICATIONS

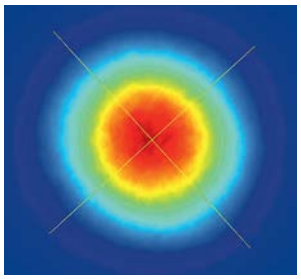
Model		2H	2H-3H	2H-4H	30W UV [1]	50W UV [1]
Output wavelength [2] (automated selection)		1030 nm 515 nm	1030 nm 515 nm 343 nm	1030 nm 515 nm 257 nm	1030 nm 515 nm 343 nm	1030 nm 343 nm
Pump pulse energy		20 – 2000 µJ	50 – 2000 µJ	20 – 2000 µJ	80 – 400 µJ	120 – 400 µJ
Pump pulse duration		< 300 fs			≈ 500 fs	
Conversion efficiency / Output power		> 50% (2H)	> 50% (2H) > 25% (3H)	> 50% (2H) > 10% (4H) [3]	40 W (2H) 30 W (3H)	50 W (3H)
Beam quality (M^2) typical values	≤ 400 µJ pump	< 1.15 (2H)	< 1.15 (2H) < 1.2 (3H)	< 1.15 (2H) n/a (4H)	< 1.2 (2H) < 1.3 (3H)	< 1.3 (3H)
	> 400 µJ pump	< 1.2 (2H)	< 1.2 (2H) < 1.3 (3H)	< 1.2 (2H) n/a (4H)	n/a	

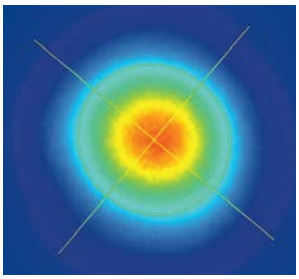
[1] *Refer to CARBIDE-CB3-UV for more details.*

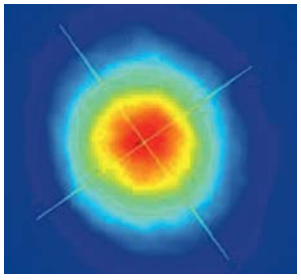
[2] *Depends on pump laser model. Up to 5th harmonic available; contact sales@lightcon.com for details.*

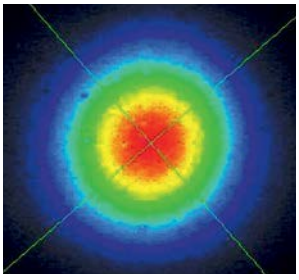
[3] *Maximum output power of 2 W.*

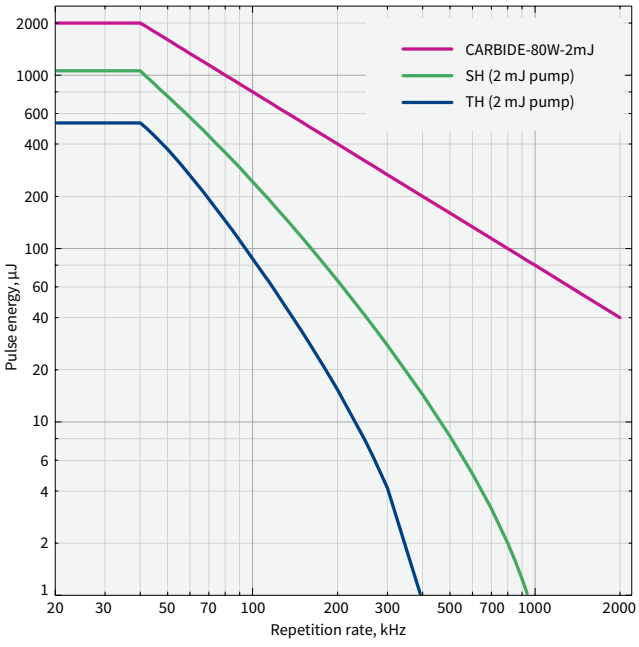



Typical 1H beam profile of CARBIDE-CB5 (100 kHz, 6 W)


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