

HIRO

Free-Standing Harmonic Generator

FEATURES

- 515 nm, 343 nm, 258 nm, and 206 nm outputs
- Simple selection of active harmonic
- Simultaneous or switchable outputs
- Customizable or high-power and -energy models



HIRO is a free-standing harmonic generator for PHAROS and CARBIDE lasers, as well as FLINT oscillators. It provides a high-efficiency second, third, fourth, and fifth harmonic generation at 515, 343, 258, and 206 nm, respectively. The selection of an active harmonic is manual but requires less than a few seconds, thanks to its unique optomechanical design.

The HIRO harmonic generator for PHAROS and CARBIDE comes in three models: standard, high-power (HP), and high-energy (HE), to perfectly fit the pump laser. The standard HIRO accepts up to 20 W and 1 mJ pump, the high-power model (HIRO-HP) takes up to 80 W, and the high-energy model (HIRO-HE)

goes up to 80 W and 3 mJ pump while maintaining the high conversion efficiency and beam quality. Also, HIRO-HP and HIRO-HE are optimized for high stability and temperature control, while the standard HIRO is customizable with additional options such as beam size control, collimation, and white-light continuum generation. All models use beam division and harmonics splitting to enable simultaneous or switchable outputs.

Coupled with FLINT, the HIRO harmonic generator provides second, third or fourth harmonic at a high repetition rate.

SPECIFICATIONS (for PHAROS and CARBIDE lasers)

Model	HIRO	HIRO-HP NEW	HIRO-HE NEW
	<i>Classic</i>	<i>Advanced</i>	
Maximum pump power	20 W	80 W	
Pump pulse energy	8 – 1000 μJ	200 – 1000 μJ	1000 – 3000 μJ
Available outputs ^{1) 2)}	Up to 4H ³⁾	Up to 5H	
Conversion efficiency ^{4) 5)}		> 50% (2H) > 25% (3H) > 10% (4H) ⁶⁾ > 5% (5H) ⁷⁾	
Polarization ⁸⁾		Linear, horizontal (2H, 5H) Linear, vertical (3H, 4H)	

PHYSICAL DIMENSIONS

Dimensions (L × W × H)	487 × 176 × 180 mm	552 × 320 × 170 mm
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¹⁾ For harmonic combinations, contact sales@lightcon.com.

²⁾ Residual fundamental output available on request.

³⁾ White light continuum output available on request.

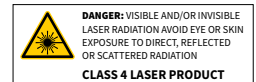
⁴⁾ Percentage of pump power, for repetition rate of up to 200 kHz.

⁵⁾ For simultaneous outputs, contact sales@lightcon.com.

⁶⁾ Maximum output power of 1 W.

⁷⁾ Maximum output power of 150 mW. Only for HIRO-HP/HE.

⁸⁾ Different polarization is available on request.



SPECIFICATIONS (for FLINT oscillators)

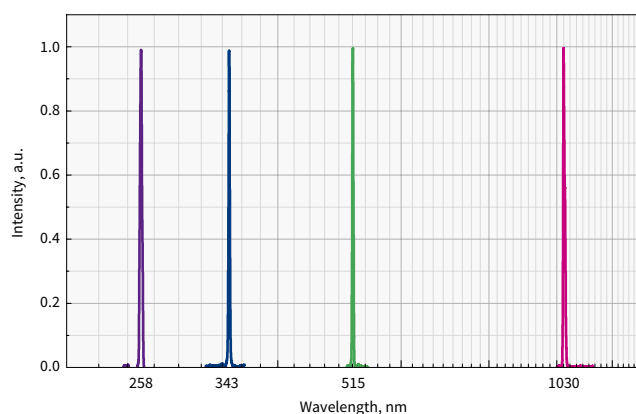
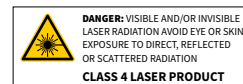
Model	HIRO
Output wavelength	Up to 4H
Maximum pump power ¹⁾	4 W
Conversion efficiency ²⁾	> 35% (2H) > 5% (3H) > 1% (4H)

PHYSICAL DIMENSIONS

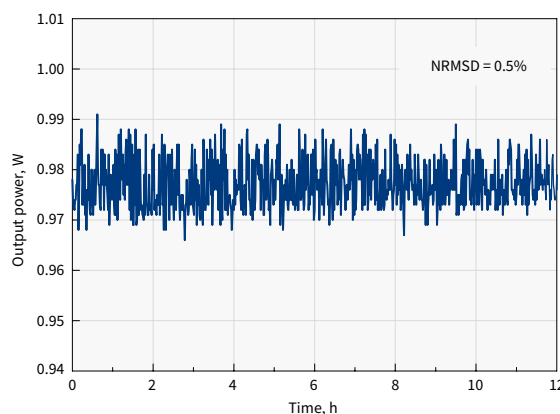
Dimensions (L × W × H)	487 × 176 × 180 mm
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¹⁾ For high power 2H, refer to HG for FLINT.

²⁾ For pump power of > 500 mW.

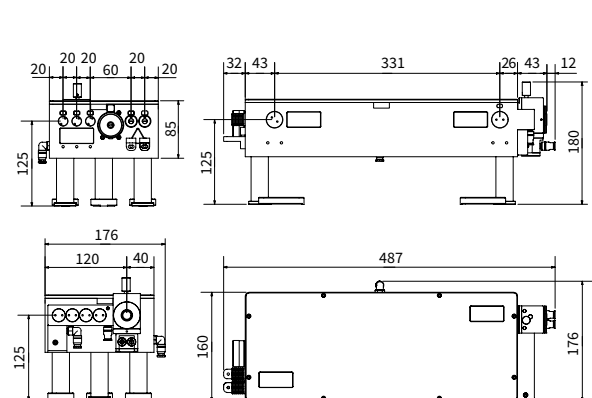


HIRO outputs

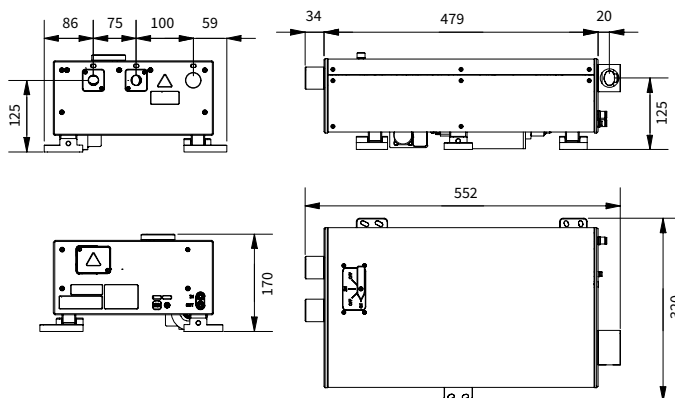


4H output power stability

DRAWINGS



Drawing of HIRO



Drawing of HIRO-HP/HE