

# HIRO

## Harmonics Generator

### FEATURES

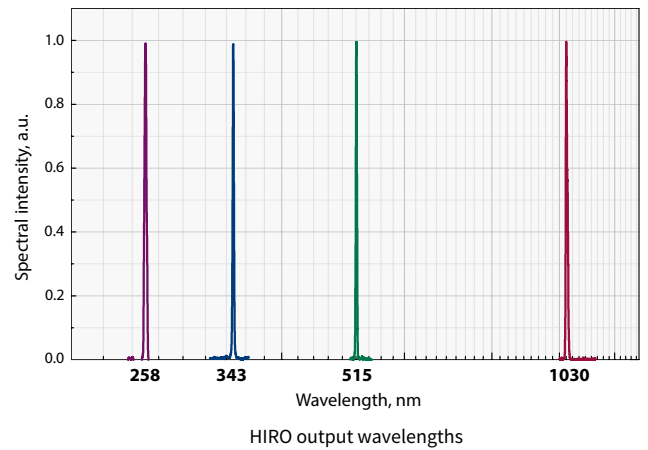
- 515 nm, 343 nm, 257 nm
- Easy switching between active harmonic
- Simultaneous outputs available
- Integrated separation of the harmonics
- Flexible in fixing and easily customized to include additional options (continuum generators, beam expanders down-collimators)



HIRO is a valuable option for PHAROS/CARBIDE lasers and FLINT oscillators that provides high power harmonics radiation at 515 nm, 343 nm and 258 nm wavelengths. We offer several standard HIRO models (with open prospect of future upgrades) which meet most users' needs. The active harmonic is selected by manual rotation of the knob – changing the harmonics will never take longer than a few seconds thanks to its unique layout and housing construction.

HIRO is the most customizable and upgradable harmonics generator available on the market. It can be easily modified to provide white light continuum, beam splitting/expanding/down-collimating options integrated in the same housing, as well as harmonics splitting, that makes all three harmonics available at a time.

Please contact LIGHT CONVERSION for customized version of HIRO.



### SPECIFICATIONS

Model	PH1F1	PH1F2	PH1F3	PH1F4	PH_W1	Output polarization
Available outputs <sup>1)</sup>	2H (515 nm)	2H (515 nm) 4H (258 nm)	2H (515 nm) 3H (343 nm)	2H (515 nm) 3H (343 nm) 4H (258 nm)	any combination and white light continuum	
Conversion efficiency of 2H <sup>2)</sup>	> 50 %		> 50 % <sup>3)</sup>			H (V <sup>4)</sup> )
Conversion efficiency of 3H <sup>2)</sup>	n/a		> 25 %			V (H <sup>4)</sup> )
Conversion efficiency of 4H <sup>2)</sup>	> 10 %		> 10 % <sup>3) 5)</sup>			V (H <sup>4)</sup> )

### PHYSICAL DIMENSIONS

General dimension of the housing	455 (L) × 160 (W) × 85 (H) mm
Recommended area for fixing	425 (L) × 255 (W) mm
Beam steering/intercepting	150 (L) × 55 (W) × 75 (H) mm

<sup>1)</sup> Depends on pump laser model.

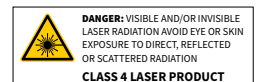
<sup>2)</sup> Harmonics conversion efficiencies are given as percentage of the input pump power/energy when the repetition rate is up to 200 kHz.

<sup>3)</sup> When the third harmonic is not in use.

<sup>4)</sup> Optional, depending on request.

<sup>5)</sup> Max. 1 W.

Residual fundamental radiation available upon request.  
HIRO pumped with ps pulses available on request.



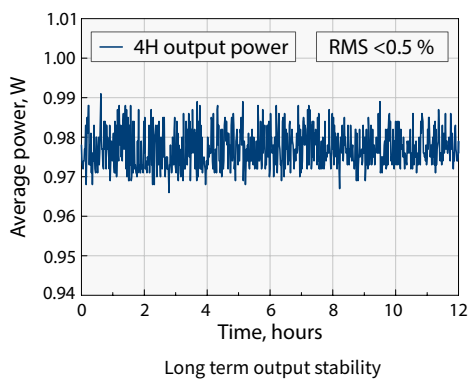
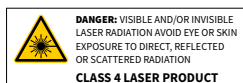
## HARMONICS GENERATION FOR FLINT

FLINT oscillator can be equipped with optional wavelength converter HIRO providing harmonics radiation at 517 nm, 345 nm and 258 nm wavelengths.

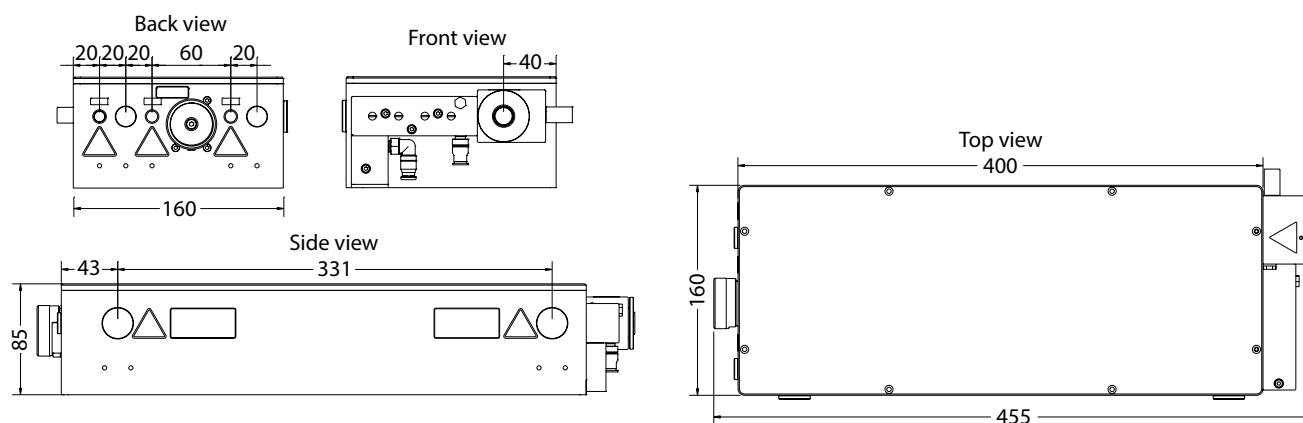
Generated harmonics	2H	3H	4H
Output wavelength	517 nm	345 nm	258 nm
Conversion efficiency	>35 %	>5 %	>1 %

### PHYSICAL DIMENSIONS

General dimension of the housing	455 (L) × 160 (W) × 85 (H) mm
Recommended area for fixing	425 (L) × 255 (W) mm
Beam steering/intercepting	150 (L) × 55 (W) × 75 (H) mm



## OUTLINE DRAWINGS



HIRO housing with water cooling system dimensions and positions of input/output ports (mm)



HIRO, PHAROS and ORPHEUS-HP in the lab