

ORPHEUS-HP

High Power Optical Parametric Amplifier



FEATURES

- 190 nm – 16000 nm tunable wavelength
- Single pulse – 1 MHz repetition rate
- Up to 40 W pump power
- Up to 0.4 mJ pump energy (higher energy upon request)
- Automated wavelengths separation
- Integrated spectrometers for monitoring the output wavelength

ORPHEUS-HP is a collinear optical parametric amplifier of white-light continuum pumped by PHAROS laser. The device is a modified version of the ORPHEUS OPA, with UV-VIS and Mid-IR tuning range frequency mixers integrated into a thermally-stabilized monolithic housing. ORPHEUS-HP also provides the option of generating deep ultraviolet pulses (190–215 nm), in addition to 210–2600 nm.

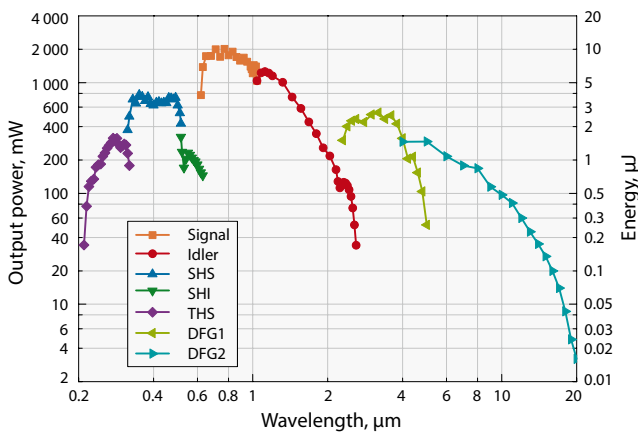
The design of this OPA offers completely hands-free wavelength tuning and automatic wavelength separation, also ensuring the same position and direction for all wavelengths in UV-near-IR region. ORPHEUS-HP integrates a mini spectrometer for online monitoring of output wavelength and comes with specialized software that enables wavelength feedback.

ORPHEUS-HP is highly recommended over standard ORPHEUS if the input power is more than 8 W, or whenever the necessary tuning range requires both UV and mid-infrared generation (for example 315–5000 nm).

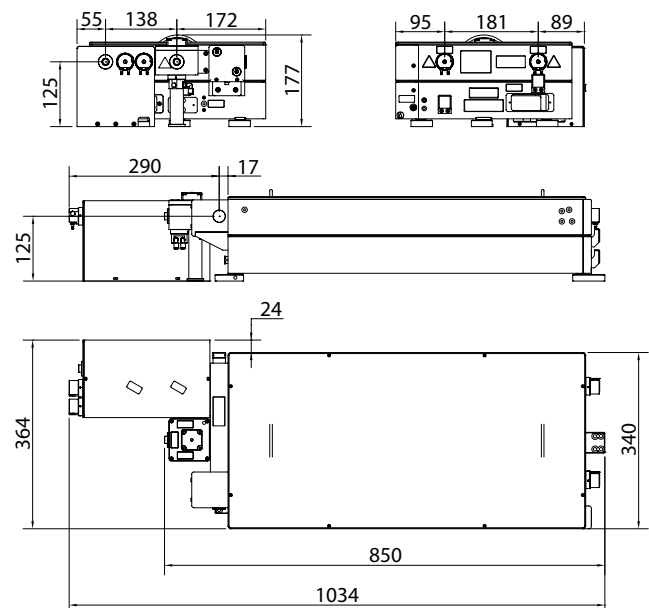
Performance specifications are the same as of ORPHEUS except for UV and deep-UV ranges which are provided in the table below.

OUTPUT OF OPTIONAL UV AND DEEP-UV CONVERTER

	DUV	FHG	TH of Signal
Tuning range	190–215 nm	258 nm	210–315 nm
Pulse energy conversion efficiency at 20–1000 μ J	> 0.3 % @ 200 nm	> 5.0 %	> 0.8 % at peak
Pulse energy conversion efficiency at 8–20 μ J	Not available		> 0.4 % at peak



ORPHEUS-HP energy conversion curve.
Pump: 20 W, 200 kHz



ORPHEUS-HP drawings