



# Harmony

Optical Parametric Amplifier

## Femtosecond fiber lasers superior lifetime & performance

Harmony is a compact optical parametric amplifier that converts ultrafast pulses from Ytterbium-based lasers into broadly tunable pulses with wavelengths ranging from 210 to over 10 000 nm. It is equipped with an intergrated mini spectrometer and can be automatically tuned in the base wavelength range of 315 up to 2600 nm with intuitive user-friendly PC software. Harmony can be compatible with all Ytterbium-based femtosecond lasers, but it works best with Jasper family femtosecond fiber lasers featuring an exceptional lifetime and beam pointing stability. Being pumped with Fluence Jasper X0 or Jasper Flex series, it can operate at repetition rates ranging from single pulse up to 300 kHz and pump pulse energy from 30  $\mu$ J to 200  $\mu$ J.



### Technical specification:

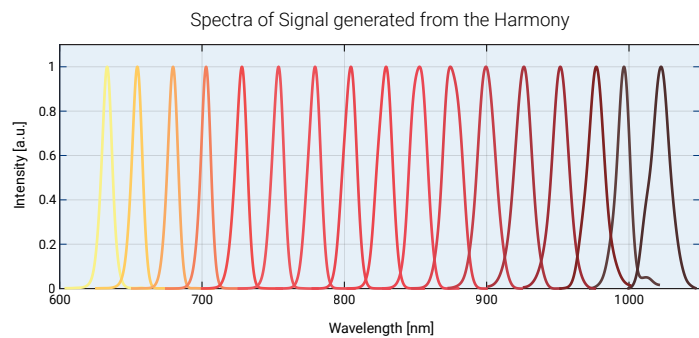
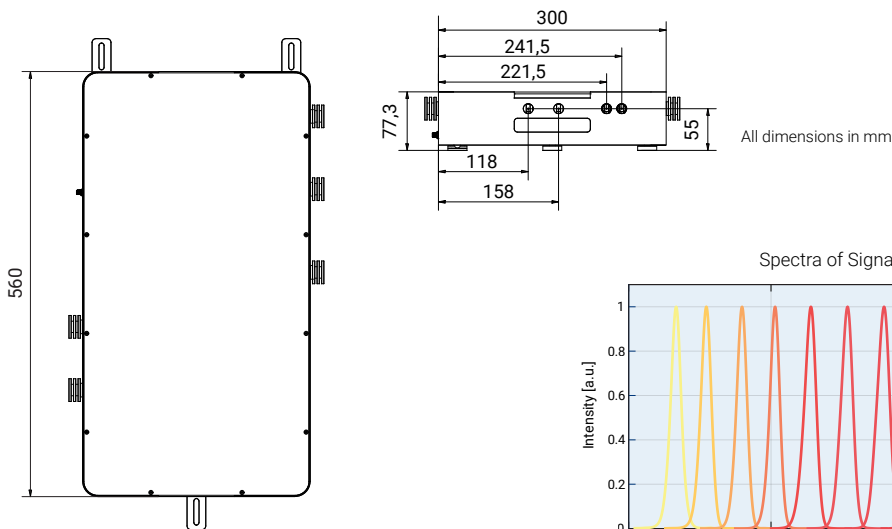
	Harmony Basic	Second Harmonic	Fourth Harmonic	IR
Pulse duration of Signal	< 200 fs (measured/calculated)	< 160 fs (calculated)	< 150 fs (calculated)	< 200 fs (calculated)
Size	560 (L) x 300 (W) x 78 (H) mm <sup>3</sup>			
Operating temperature	15 - 35°C			
PC software for automated tuning	Included			
Automated tuning	Included			

**Not exactly what you are looking for?**  
**Get in touch with us and let us help you out.**

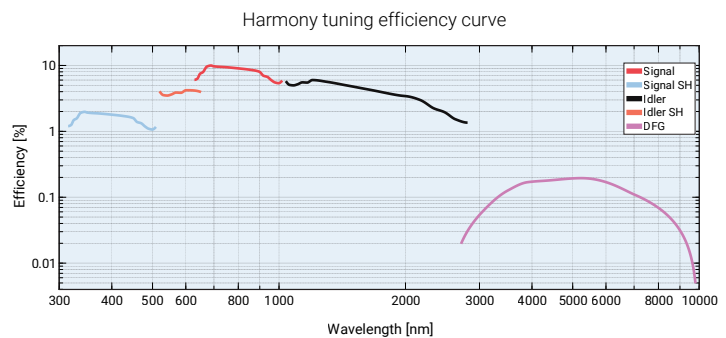
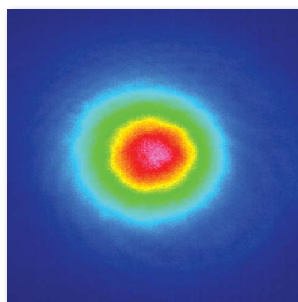
### Performance and tuning:

Output	Tuning range	Conversion efficiency* (BOL**)
Signal and Idler	630 - 1030 nm and 1030 - 2600 nm	> 9% (signal) peak conversion efficiency > 4% (idler) peak conversion efficiency
SH of signal and idler	315 - 515 (SH signal) nm and 515 - 630 nm	> 2% peak conversion efficiency for 315-515 and 515-630 nm
FH of signal and idler	210 - 258 nm and 258 - 315 nm (available upon request)	> 0.5% peak conversion efficiency
SH of pump beam	fixed 515 ± 2 nm	> 40% conversion efficiency
IR extension	2600 - 10000 nm (available upon request)	> 0.4% peak conversion efficiency > 0.1% in range 2.8 - 6 μm

\* - combined Signal and Idler with respect to input pump laser average power at 200 kHz. SH – second harmonic, TH - third harmonic, FH fourth harmonic  
 \*\* - BOL - beginning of lifetime



Typical beam profile



All specifications are subject to change without prior notice due to continuous improvements.