

Ultrafast lasers that simply work

FOR INDUSTRY, SCIENCE AND MEDICINE

Harmony

Optical Parametric Amplifier



Harmony is a single box optical parametric amplifier that converts ultrafast pulses from Ytterbium-based lasers into broadly tunable pulses with wavelengths ranging from 210 nm to over 10 000 nm. It is equipped with an intergrated mini spectrometer and can be automatically tuned in the base wavelength range of 630 up to 2600 nm with intuitive user-friendly PC software. It is designed to operate from single pulse up to 200 kHz repetition rate and pump pulse energy as low as 35 μJ . Harmony can be compatible with all Ytterbium-based femtosecond lasers, but it works best with Jasper family femtosecond fiber lasers featuring an exceptional beam pointing stability.

Technical specification:

	Harmony Basic	Harmony Ultra Tune
Pulse duration of Signal	<200 fs	Ask for details
Signal bandwidth	<250 cm ⁻¹	
Polarization	Linear, horizontal	
Beam quality M ²	<1.5*	
Size	560 (L) x 300 (W) x 78 (H) mm ³	
Operating temperature	15-35 °C	

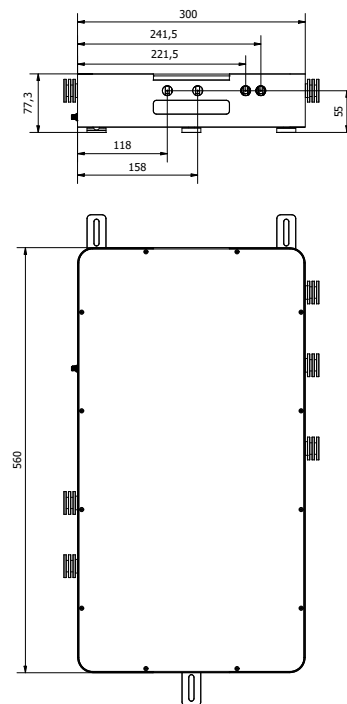
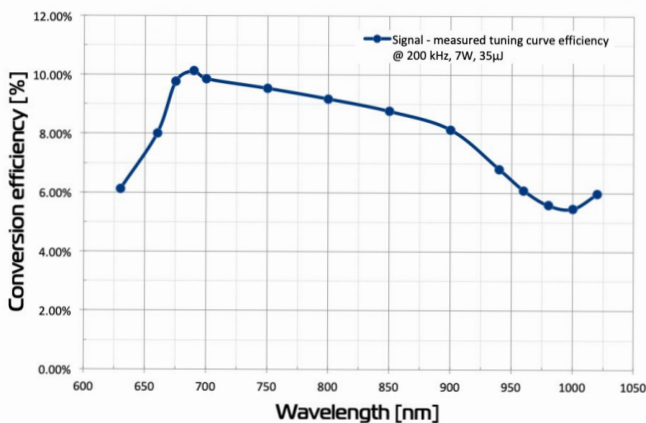
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Performance and tuning:

Output	Tuning range	Conversion efficiency**
Signal and idler	630-1030 nm and 1030-2600 nm	> 4% across tuning range, 9% at peak of tuning range
SH of signal and idler	315 – 515 nm and 515 – 630 nm	> 2% at peak of tuning range
FH of signal and idler	210 – 255 nm and 255 – 310 nm	> 0.5% at peak of tuning range***
SH of pump beam	fixed 515 ± 2 nm	> 40%
IR extension	2600 - 10000 nm	>0.4% peak conversion efficiency*** >0.1% in range 2.8 μm - 6 μm

* - for signal and Idler
** - 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

Fluence Harmony typical tuning curve



All dimensions in mm

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