

Applications

- Pumping OPAs and HG units
- Materials research
- Femtochemistry
- Spectroscopy
- THz generation
- Ultrafast Imaging
- Pump probe experiments

Features

- Cryogenic cooling enables highest average powers on the market
- Average power up to 10W from a single box configuration
- Pulse energies up to 200 μ J
- Repetition rates from 50 to 300 kHz
- Pulse duration of <40fs
- Excellent beam quality: M^2 typically 1.1-1.2
- Intuitive control GUI including wavelength, bandwidth, power, and repetition rate control with integrated diagnostics
- One-box configuration with integrated pumps and oscillator
- Combination of clean (low pedestal), short pulses and high energies gives higher peak intensities for nonlinear processes
- Custom configurations available

Variable repetition rate ultrafast regenerative ti:sapphire amplifier, up to 300 kHz

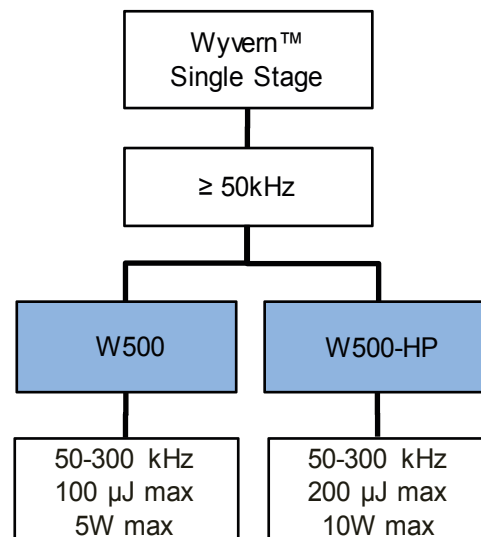


Wyvern-500™ is KMLabs' high repetition-rate, 50-300kHz single-stage regenerative amplifier. It is a fully engineered and integrated commercial source based on a single rugged opto-mechanical platform. It employs patented (US 6,804,287) cryogenically-cooled amplifier technology, allowing for continuous trade-off between pulse energy and repetition rate. Tailor the laser output to the optimum for your experiment.

Wyvern-500™ Unique Features

- Highest pulse energy for 100 kHz-class ti:sapphire systems
- Tunable repetition rate
- Clean pulses due to cryogenic thermal management

Wyvern-500™ Product Family



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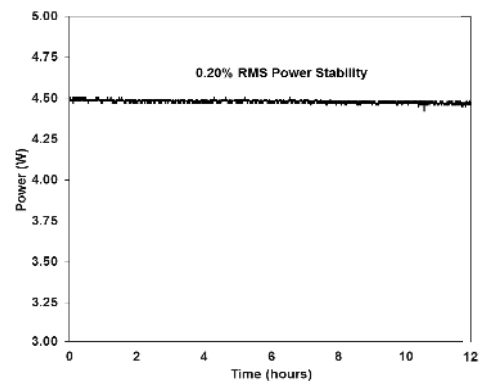
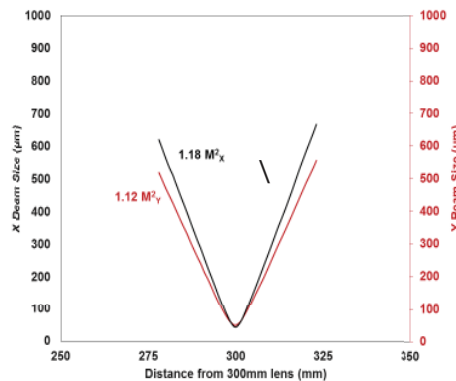
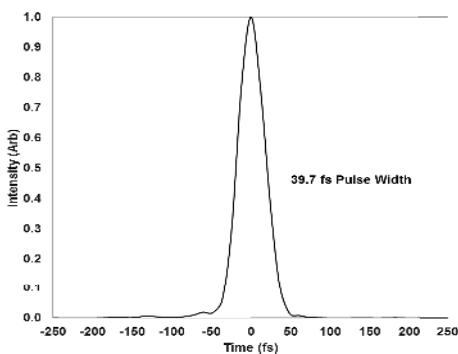
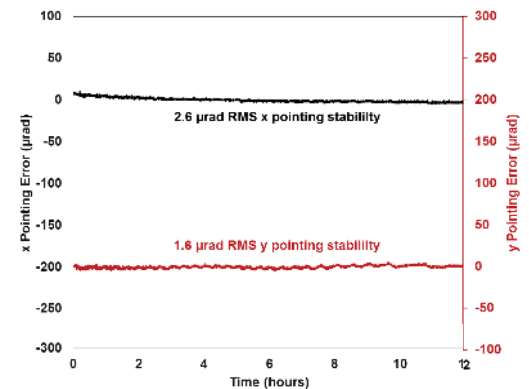
The Wyvern-500™ product family provides 50 to 300 kHz repetition rates with < 40fs pulse duration

- Highest pulse energies available in the 100 kHz repetition rate class
- Clean pulses due to cryogenic thermal management

	W500	W500-HP
Repetition Rate	50-300 kHz	50-300 kHz
Pulse Duration	≤ 40 fs <i>Measured using FROG</i>	≤ 40 fs <i>Measured using FROG</i>
Pulse Energy [Avg. Power]	100 μJ @ 50kHz [5W] 50 μJ @ 100kHz [5W] 12.5 μJ @ 200kHz [2.5W]	200 μJ @ 50kHz [10W] 100 μJ @ 100kHz [10W] 25 μJ @ 200kHz [5W]
Beam Quality	M ² < 1.3, Near-TEM ₀₀	M ² < 1.3, Near-TEM ₀₀

Common Specifications

- Pre-pulse Contrast: >250:1 on ns scale
- Post-pulse Contrast: >100:1 on ns scale
- Contrast on sub-ps scale: >1000:1 at ~500 fs, >300:1 at ~270 fs from FROG measurement
- Polarization: Horizontal “p” with >100:1 polarization purity
- Long-term stability: <1% RMS over >12 hours (after warm-up)
- Beam pointing stability: <20 μrad over 12 hours (after warm-up)
- Operational temperature range - full compliance: 23 +/- 0.5 C
- Optical assembly size: 2.5' x 6.5'



Wyvern-500™ Example Performance Data at 200