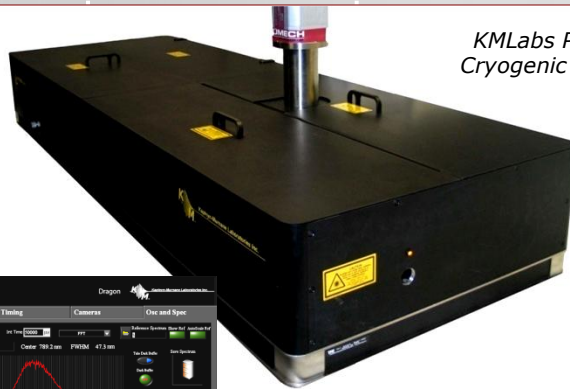


# Wyvern™ 1000 Series

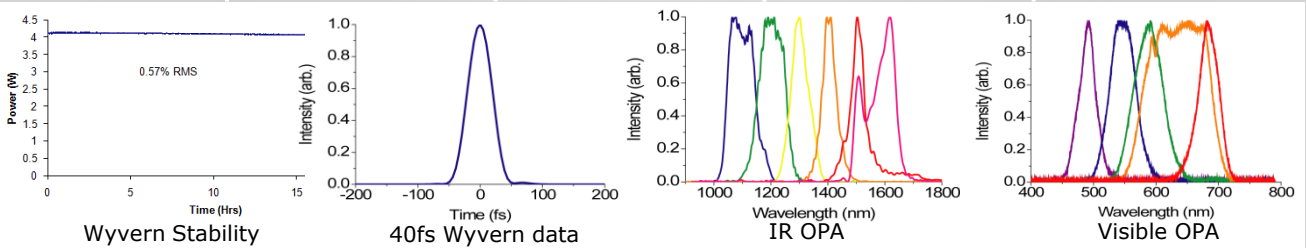
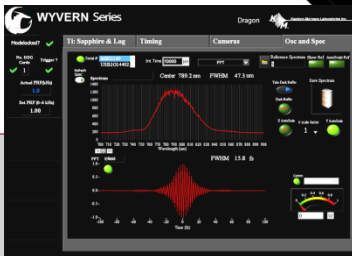
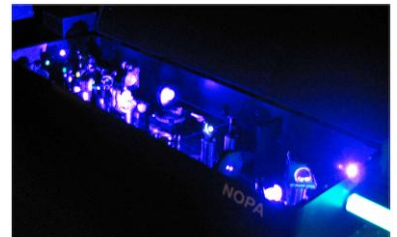
*Ti:sapphire regenerative ultrafast laser amplifiers*

**Industry Leading... Computer controlled, variable Repetition Rate**

- *Pulse energy: 220μJ – 5.5mJ*
- *Repetition rates: 1kHz up to 50kHz*
- *Pulse duration: <45fs*
- *Unprecedented average power from a single-stage amplifier*



*KMLabs Patented  
Cryogenic 1<sup>st</sup> Stage*



*Wyvern-OPA and Wyvern-NOPA operate in the μJ 100kHz regime*

**Ultrafast Imaging • Spectroscopy (THz, nonlinear, molecular, surface) •  
Materials Processing • Lithographic Metrology • Mask Inspection**

Kapteyn–Murnane Laboratories, Inc.™

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Singapore: (65) 6746 8068

Germany/Austria: 081 91 985199 0  
South Korea: 042 823 5300

India: 91 22 27801176  
UK: 44 01295 672500

High Rep Rate Regenerative Amplifier	Wyvern-1000				
	W1000-3	W1000-10	W1000-15	W1000-30	W1000-50
Repetition Rate:	1kHz thru 3kHz Computer Controlled Tuning of entire rep-rate range	1 thru 10kHz Computer Controlled Tuning from 1 thru 5 kHz	3 thru 15kHz Computer Controlled Tuning from 3 thru 10 kHz	10 thru 30kHz Computer Controlled Tuning from 10 thru 20 kHz	30 thru 50kHz Computer Controlled Tuning of entire rep-rate range
Energy at 50kHz:					220uJ
Energy at 40kHz:					280uJ
Energy at 30kHz:				Attainable by simple Customer alignment	400uJ
Energy at 20kHz:				550uJ	
Energy at 15kHz:			Attainable by simple Customer alignment	750uJ	
Energy at 10kHz:		Attainable by simple Customer alignment	1mJ	1.3mJ	
Energy at 5kHz:		2mJ	2mJ		
Energy at 3kHz:	3mJ	3mJ	3.3mJ		
Energy at 1kHz:	5.5mJ	4.0mJ			
Pulse Duration: <sup>1, 2</sup>	< 45 fs		< 45 fs		< 45 fs
Beam Quality:	$M^2 < 1.3$				
Pre-pulse contrast on ns scale:	> 250:1				
Post-pulse contrast on ns scale: <sup>3</sup>	> 100:1				
Polarization:	Horizontal				
Power instability: <sup>4</sup>	< 1% RMS				
Long term instability (8hrs):	< 1%RMS				
Beam Diameter (1e <sup>2</sup> ):	~8mm				

<sup>1</sup> Longer pulse options available, up to 130 fs.

<sup>2</sup> Shorter Pulse options coming soon.

<sup>3</sup> Higher Contrast options available.

<sup>4</sup> Power instability <1% RMS options available.

The Wyvern™ is a complete, single-box system, housing the Ti:sapphire laser oscillator, regenerative amplifier and oscillator pump laser within a single enclosure. The Wyvern's™ short pulses, high energy and excellent spatial profile are exceptionally well-suited to nonlinear optics applications, e.g. allowing efficient white light production.

The Wyvern™ 1000 Series offers industry leading "hands-off" computer-controlled tuning of repetition rate for the operating ranges described and simple and rapid alignment to provide the widest range of rep-rates in the industry today.

Surpassing ultrafast providers in the industry today... the Wyvern™ 1000 does not require the added cost of re-alignment by a factory authorized service technician when a change in Rep-Rate is needed to reach success with your project.

**... Don't settle for anything less**



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