Mira-HP

High-Power Ultrafast Ti:Sapphire Oscillators

The femtosecond/picosecond Mira-HP is the world's most powerful commercial ultrafast Ti:Sapphire oscillator. Conservatively specified at 3.5 W average power in femtosecond mode, the Mira-HP-F typically delivers power in excess of 4 W at 800 nm. Designed specifically to be pumped by our Verdi G18 laser, Mira-HP oscillators deliver high power across the entire Ti:Sapphire tuning curve. Like the Mira 900, the Mira-HP features the built-in Optima control and diagnostics system for greater ease-of-use and high reliability.

FEATURES & BENEFITS

- Simple, stable Kerr lens modelocking for greater ease-of-use and reliability
- X-Wave single optics set supports wavelength tuning from less than 700 nm to more than 1000 nm
- Optima system control and diagnostics package is integral to system
- Purgeable enclosure improves reliability and provides full wavelength coverage
- Integrated pump steering optics for easy pump alignment
- Optional pumping beam directions allow wider choice of optical table layouts
- Auxiliary CW cavity for ease of general setup and continuous- wave operation

OPTIONS & ACCESSORIES

- Mira OPO-X synchronously-pumped OPO
- 2nd, 3rd and 4th harmonic generation
- Pulse Picker
- Synchrolock-AP
- SPO-I, SPO-II and CPC-II pulse compressors

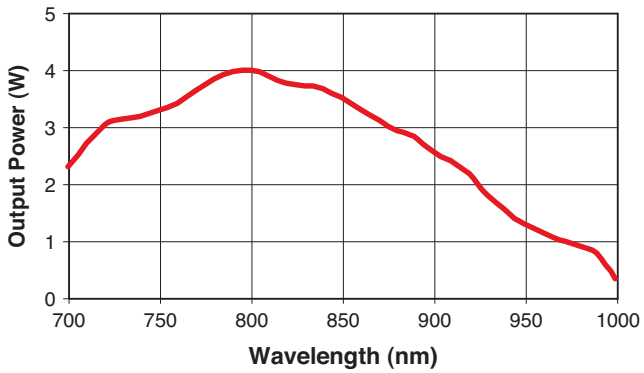
COHERENT®
Superior Reliability & Performance

SPECIFICATIONS[1]	Mira-HP-F	Mira-HP-P	Mira-HP-D
Output Power[2,3] (W)	>3.5 (>4 typ.)	>3.0 (>3.2 typ.)	Dual platform contains all hardware necessary for both femtosecond (-F) and picosecond (-P) operation.
Pulse Width[2,3,4]	<130 fs	<2 ps	<130 fs and <2 ps
Tuning Range (nm) (X-Wave Optics)	700 to 1000		
Repetition-Rate (MHz) (nominal)	76		
Noise[5] (%)	<0.1		
Stability[6] (%)	<3		
Beam Diameter[7] (mm)	0.8		
Beam Divergence[8] (mrad)	1.5		
Spatial Mode[10]	TEM_{00}		
Polarization	Horizontal		
Physical Dimensions	111.1 x 38.1 x 19.7 cm (43.75 x 15 x 7.75 in.)		
MEASUREMENT TOOLS			
Meter	FieldMaxII™-TO power meter (part number 1070873)		
Sensor	PM10 power detector (part number 0012-0920)		

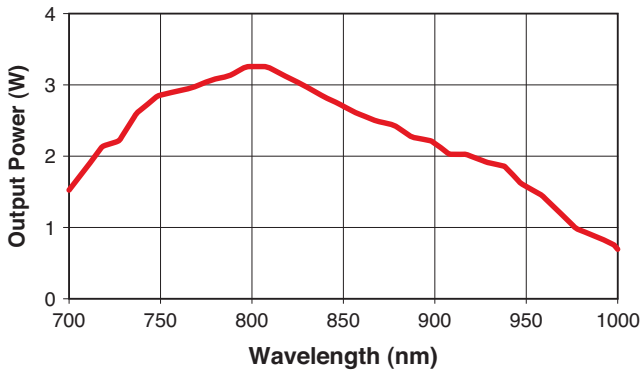
1 Specifications apply only with Coherent Verdi-G18 pump lasers.
2 At 800 nm.
3 Based on $sech^2$ deconvolution of 0.65 times autocorrelation width. Pulse width is <160 fs across specified tuning range in fs mode.
4 In fs mode, the pulses are typically 1.5x the transform limit and so can be further compresses in an external compressor.
5 Measured rms in a 10 Hz to 20 MHz bandwidth.
6 Power drift in any two-hour period after warm-up when crystal's cooling water is maintained at ±0.1°C.
7 $1/e^2$ diameter (±0.2 mm) at exit port.
8 Full angle divergence (±0.3 mrad) at exit port.
9 Typical measured M^2 value is 1.1.

TYPICAL PERFORMANCE DATA

Typical X-Wave Power Curve for Verdi G18 Pumped Mira-HP-F

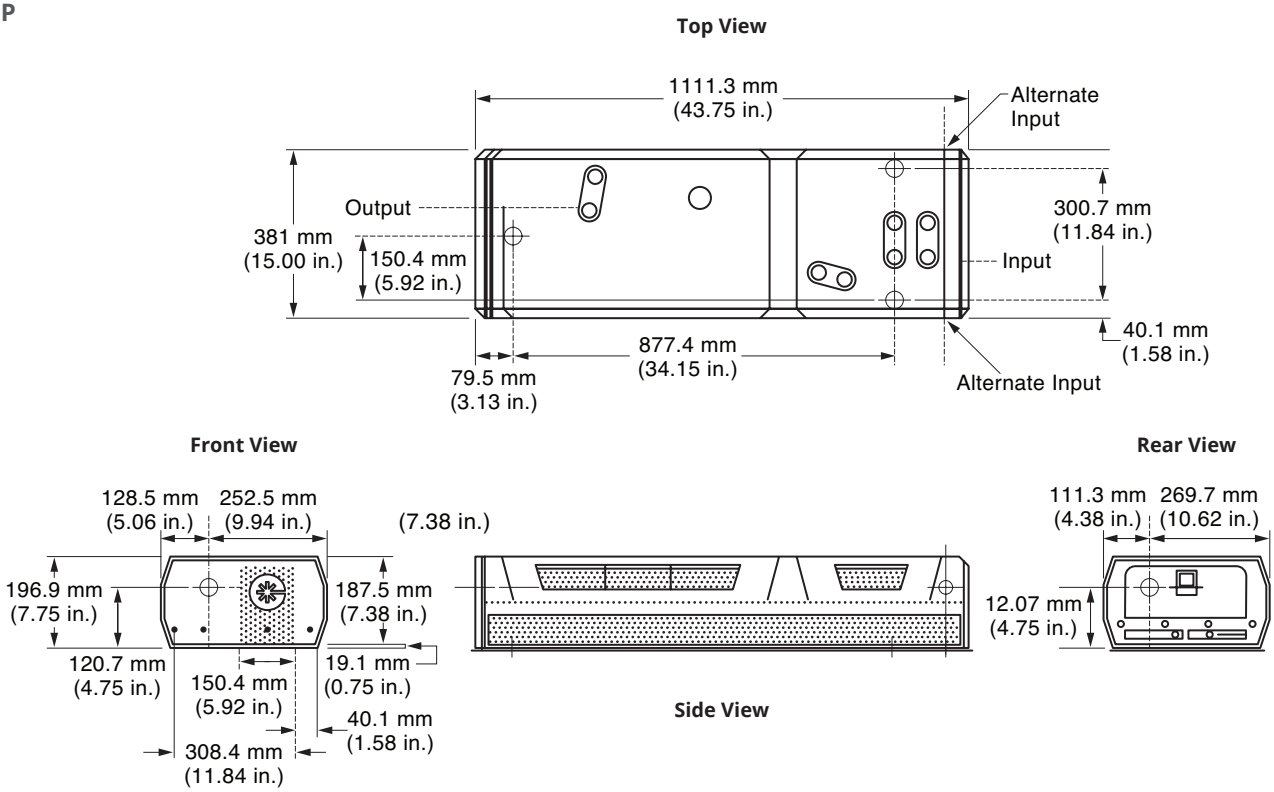


Typical X-Wave Power Curve for Verdi G18 Pumped Mira-HP-P



MECHANICAL SPECIFICATIONS

Mira-HP



COHERENT

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