

# Mira HP

## High-Power Ultrafast Ti:Sapphire Oscillators

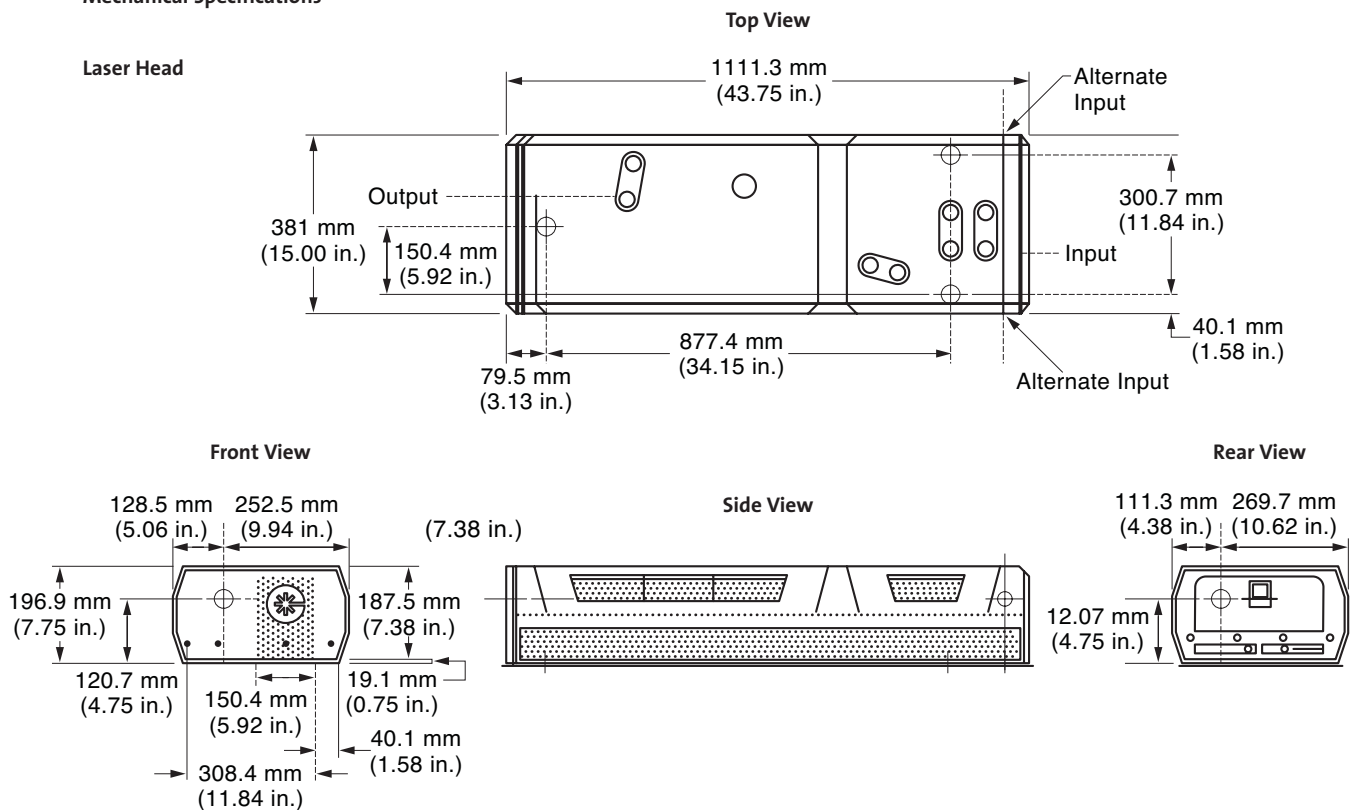
### Features

- High-power modelocked output
- Optima™ control & diagnostics package
  - Fast photodiode
  - Autoranging power monitor detector
  - CW detector
  - Automatic modelocking starter
  - β-Lock™ automatic GTI control
- Integrated pump beam steering optics
- Multiple pump port options
- Integrated CW alignment cavity
- User-friendly cavity layout
- Wide range of accessories available
  - SynchroLock™-AP
  - Pulse picker
  - Harmonic generator
  - Mira™ OPO



### Mechanical Specifications

#### Laser Head



**Superior Reliability & Performance**

# Mira™ HP

## High-Power Ultrafast Ti:Sapphire Oscillators

### System Specifications<sup>1</sup>

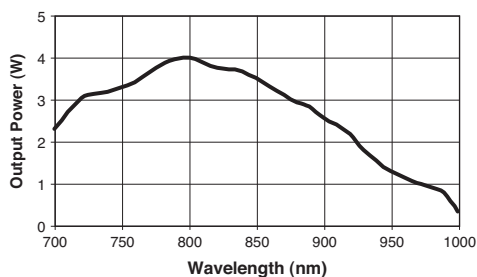
	Mira HP-F	Mira HP-P	Mira HP-D
Output Power <sup>2</sup> (W)	>3.5 (>4 typ.)	>2.8 (>3.2 typ.)	Dual platform contains all hardware necessary for both femtosecond (-F) and picosecond (-P) operation.
Pulse Width <sup>2,3,4</sup>	<150 fs	<2 ps	
Tuning Range (nm)(X-Wave™ Optics)	700 to 980 (700 to 1000 typ.)		
Repetition Rate (MHz)(nominal)	76		
Noise <sup>5</sup> (%)	<0.1		
Stability <sup>6</sup> (%)	<3		
Beam Diameter <sup>7</sup> (mm)	0.8		
Beam Divergence <sup>8</sup> (mrad)	1.7		
Spatial Mode <sup>9</sup>	TEM <sub>00</sub>		
Polarization	Horizontal		
Physical Dimensions	111.1 x 38.1 x 19.7 cm (43.75 x 15 x 7.75 in.)		

### Measurement Tools

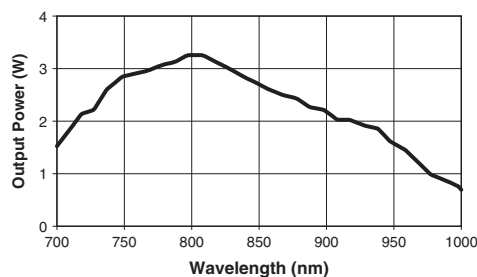
Meter	FieldMaxII™-TO power meter (part number 1070873)
Sensor	PM10 power detector (part number 0012-0920)

- <sup>1</sup> Specifications apply only with Coherent Verdi™-V18 pump lasers.
- <sup>2</sup> At 800 nm.
- <sup>3</sup> Based on sech<sup>2</sup> deconvolution of 0.65 times autocorrelation width. Pulse width is <200 fs across specified tuning range in fs mode.
- <sup>4</sup> In fs mode, the pulses are typically 1.5x the transform limit and so can be further compressed in an external compressor.
- <sup>5</sup> Measured RMS in a 10 Hz to 20 MHz bandwidth.
- <sup>6</sup> Power drift in any two-hour period after warm-up when crystal's cooling water is maintained at ±0.1°C.
- <sup>7</sup> 1/e<sup>2</sup> diameter (±0.2 mm) at exit port.
- <sup>8</sup> Full angle divergence (±0.3 mrad) at exit port.
- <sup>9</sup> Typical measured M<sup>2</sup> value is 1.1.

Typical X-Wave Power Curve  
for Verdi-V18 Pumped Mira HP-F



Typical X-Wave Power Curve  
for Verdi-V18 Pumped Mira HP-P



Coherent follows a policy of continuous product improvement. Specifications are subject to change without notice.

Coherent's scientific and industrial lasers are certified to comply with the Federal Regulations (21 CFR Subchapter J) as administered by the Center for Devices and Radiological Health on all systems ordered for shipment after August 2, 1976.

Coherent offers a limited warranty for all Mira HP lasers. For full details of this warranty coverage, please refer to the Service section at [www.Coherent.com](http://www.Coherent.com) or contact your local Sales or Service Representative.



[www.Coherent.com](http://www.Coherent.com)

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