

# MBR-110

## Single-Frequency Ti:Sapphire Laser

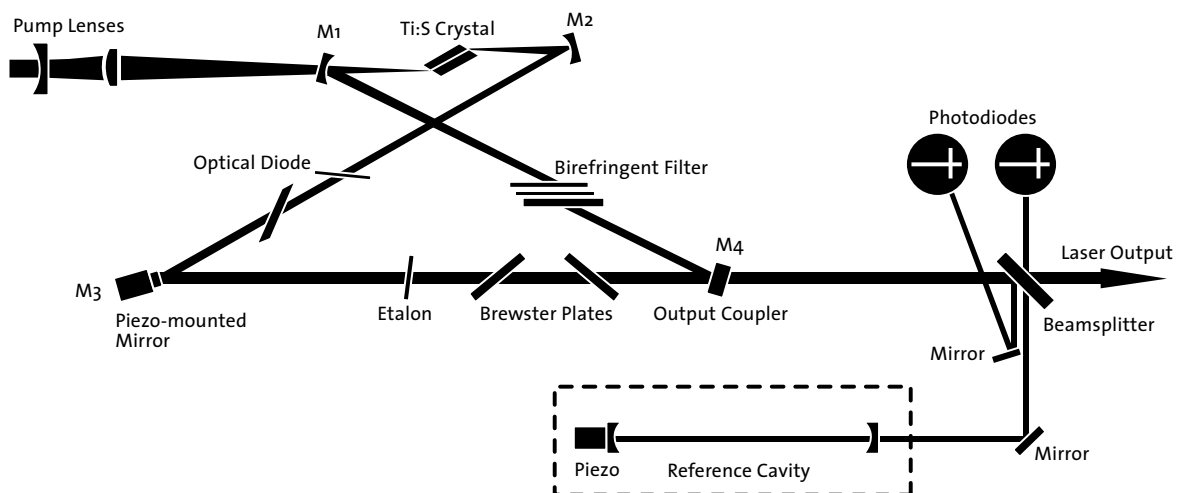


### Features

- Monolithic resonator
- Ti:Sapphire performance
- Optimized output couplers
- Minimum number of mirrors
- No external focussing optics
- Miniature optical diode
- Powered by Verdi™
- Birefringent filter
- Single thin etalon
- Galvanometer mounted tilting Brewster plates
- Piezo mounted mirror
- Reference cavity
- Electronic etalon lock

### Optical Schematic of the MBR-110 Ti:Sapphire Laser

Verdi 532 nm input



**Superior Reliability & Performance**

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## Single-Frequency Ti:Sapphire Laser

### System Specifications<sup>1,2</sup>

Power (18W pump)(mW)	>3500
Power (10W pump)(mW)	>1500
Power (8W pump)(mW)	>1000
Power (6W pump)(mW)	>600
Power (5W pump)(mW)	>450
Tuning Range (18W pump)(nm)	700 to 1030
Tuning Range (10W pump)(nm)	700 to 1000
Tuning Range (8W pump)(nm)	700 to 970
Tuning Range (6W pump)(nm)	715 to 950
Tuning Range (5W pump)(nm)	720 to 940
Relative Linewidth <sup>3</sup> (kHz)(rms)	<75
Typical Beam Divergence (full angle)(mrad)	1.7
Typical Beam Radius <sup>4</sup> (mm)	0.25
Scan Range (GHz)	30
Spatial Mode	TEM <sub>00</sub>
Polarization	Horizontal
Amplitude Noise <sup>5</sup> (rms)	<1.5%
Tunability (nm)	700 to 1030 (high-power pump)
Laser Head Dimensions (L x W x H)	630 x 310 x 160 mm (25.2 x 12.4 x 6.4 in.)
Electronics Unit Dimensions (L x W x H)	440 x 530 x 160 mm (17.6 x 21.2 x 6.4 in.)
Operating Voltage (V)	110 ±5%; 240 ±5%
Cooling Requirements	Supplied closed loop chiller
External Control	RS-232, analogue

<sup>1</sup> The MBR-110 has been designed to operate with the Coherent Verdi pump laser only. Please consult your Coherent representative if an alternative configuration is proposed.

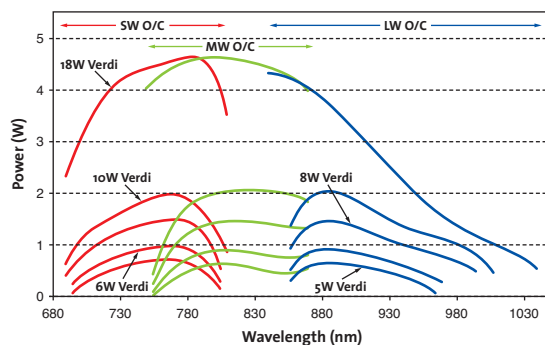
<sup>2</sup> Measured at the peak of the tuning curve.

<sup>3</sup> Measured relative to the reference cavity with 1W output power at 780 nm.

<sup>4</sup> At output window.

<sup>5</sup> Measured 10 Hz to 10 MHz bandwidth (using Verdi pump).

### Typical MBR Tuning Curves with Verdi Pump Sources



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 MBR systems. 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.



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