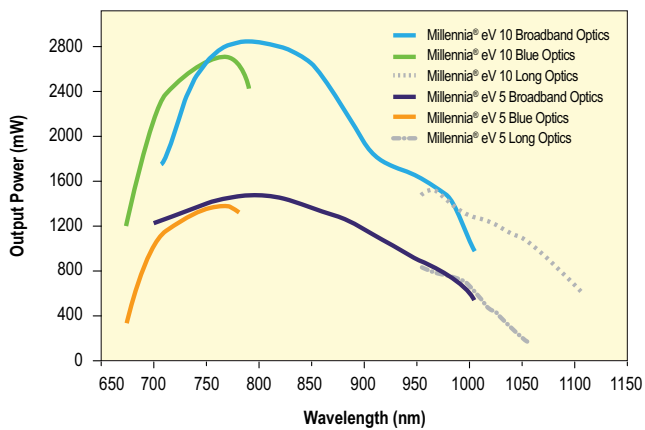


# 3900S CW Tunable Ti:Sapphire Laser

mks | Spectra-Physics®

The Spectra-Physics Model 3900S is a high-performance, tunable, solid state IR laser. It delivers tunable, CW output from 675 to 1100 nm in a low-cost package. Pumped with either an argon ion laser or 532 nm diode-pumped solid state laser, the Model 3900S solid state Ti:Sapphire laser produces up to 3.5 W of TEM<sub>00</sub> output for the broadest range of IR applications.

Typical Tuning Curve<sup>1</sup>



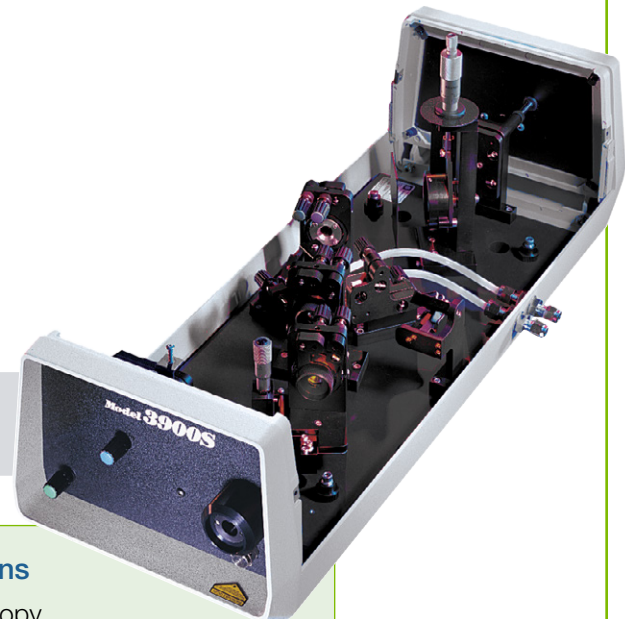
1. Typically measured performance; not a guaranteed or warranted specification.

## The 3900S Advantage

- Up to 3.5 W TEM<sub>00</sub> output for high-power applications
- Tunable from 675 to 1100 nm
- Computer-optimized Z-fold cavity for maximum power and ease of alignment
- Etalon option available for narrow linewidth applications

## Applications

- Spectroscopy
- Fiber laser research
- Telecommunications research
- Semiconductor studies



# 3900S Specifications<sup>1</sup>

| Average Power <sup>2</sup> | 675 nm <sup>6</sup> | 700 nm | 790 nm | 1000 nm | 1050 nm <sup>7</sup> |
|----------------------------|---------------------|--------|--------|---------|----------------------|
| Millennia eV 10 W          | 800 mW              | 1.2 W  | 2.2 W  | 500 mW  | 500 mW               |
| Millennia eV 5 W           | N/A                 | 600 mW | 1.0 W  | 250 mW  | N/A                  |

## Tuning Ranges

|                        |             |
|------------------------|-------------|
| Broadband Optics       | 700–1000 nm |
| Optional X-Long Optics | 950–1100 nm |
| Optional Blue Optics   | 675–750 nm  |

## Linewidth Specifications

|                        |         |
|------------------------|---------|
| Standard 3900S         | <40 GHz |
| With Thin Etalon       | <15 GHz |
| With Thin/Thick Etalon | <1 GHz  |

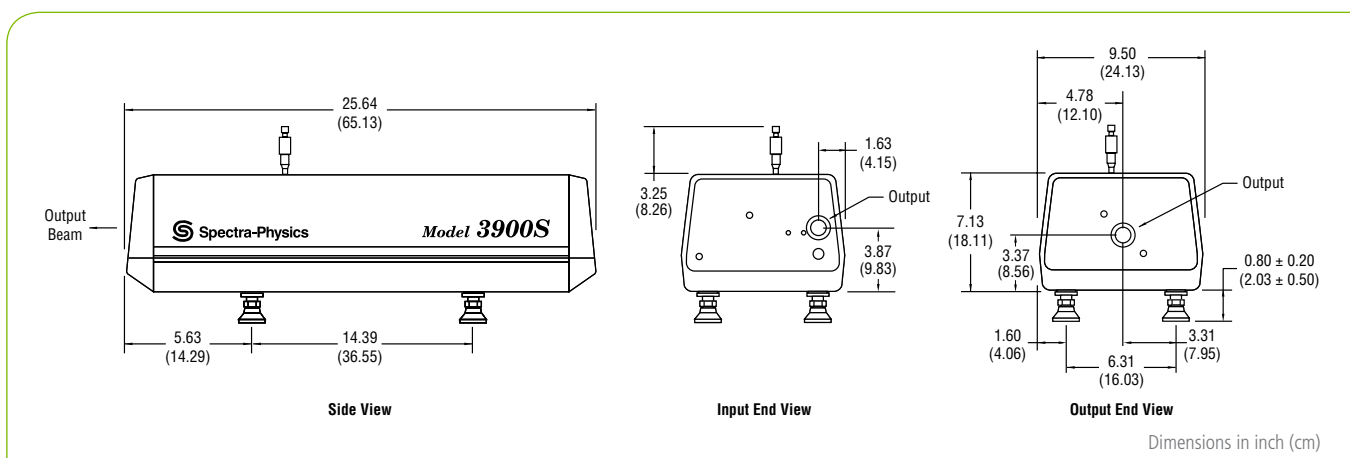
## Stability

|                          |     |
|--------------------------|-----|
| Noise <sup>3</sup>       | <1% |
| Power Drift <sup>4</sup> | <3% |

## Beam Characteristics

|  |                   |
|--|-------------------|
| Spatial Mode                             | TEM <sub>00</sub> |
| Polarization                             | >100:1 Horizontal |
| Beam Diameter (1/e) <sup>5</sup>         | 0.95 mm           |
| Beam Divergence, full angle <sup>5</sup> | <1 mrad           |

1. Due to our continuous product improvement program, specifications may change without notice. Specifications only apply when the 3900S is pumped by a Spectra-Physics Millennia eV 10 W or 5 W pump laser.
2. Power specified using the appropriate pump laser
3. RMS, measured in a 10 Hz to 1 MHz bandwidth
4. For a 2-hour period after a 1 hour warm up and  $\leq \pm 3^\circ\text{C}$  temperature change
5. Specifications apply to operations at the peak wavelength
6. Using additional blue optics
7. Using additional x-long optics
8. Contact factory for additional pump powers.



3900S Dimensions



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