

# Venturi™ TLB-8800

Swept and Step-Wavelength  
Tunable Laser

mks | Spectra-Physics®

The New Focus™ Venturi TLB-8800 swept-wavelength lasers deliver it all. They combine the best in tunability – ultrafast, ultrawide, and mode-hop-free – with low noise, high accuracy and repeatability. Because Venturi lasers are based on our award winning design, they are extremely dependable with OEM proven 24/7 reliability. Venturi lasers are ideal for fiber sensing, fiber-optics and silicon photonics testing, spectroscopy, laser seeding, and metrology.

The Venturi TLB-8800 is the only swept wavelength laser with up to 20,000 nm/second tuning speed and high frequency repetition rates enabling true real-time measurements. Tuning speeds, repetition rates, dwell times, and wavelength ranges are adjustable to accommodate your unique needs. In addition to wavelength sweeping, the Venturi is capable of step tuning in 0.01 nm increments. The front panel offers easy access to RS232 and USB interfacing with use of a user friendly GUI.

## The Venturi TLB-8800 Advantage

- Up to 20,000 nm/s wavelength tuning
- Swept and step modes
- Programmable high frequency repetition rates
- Programmable coherence control
- Continuous wave and single longitudinal mode

## Applications

- Fiber sensing
- Fiber optics testing
- Silicon photonics testing
- Spectroscopy
- Metrology



## Venturi TLB-8800 Specifications<sup>1</sup>

Model	Mode-Hop Free Tuning Range	Output Power	ASE	Integrated Dynamic Range	Wavelength Sweep Speed
TLB-8800-H-CL	1520–1630 nm	10 dBm	>40 dB	>15 dB	2–2,000 nm/s
TLB-8800-HSH-CL	1520–1600 nm	10 dBm	>40 dB	>15 dB	5,000–20,000 nm/s
TLB-8800-L-CL	1510–1620 nm	2 dBm	>70 dB	>55 dB	2–2,000 nm/s
TLB-8800-HSL-CL	1510–1600 nm	2 dBm	>70 dB	>55 dB	5,000–20,000 nm/s
TLB-8800-H-E	1360–1460 nm	10 dBm	>40 dB	>15 dB	2–2,000 nm/s
TLB-8800-H-O	1260–1340 nm	10 dBm	>40 dB	>15 dB	2–2,000 nm/s
TLB-8800-HSH-O	1260–1340 nm	10 dBm	>40 dB	>15 dB	5,000–20,000 nm/s
TLB-8800-L-O	1260–1340 nm	2 dBm	>70 dB	>55 dB	2–2,000 nm/s
TLB-8800-HSL-O	1260–1340 nm	2 dBm	>70 dB	>55 dB	5,000–20,000 nm/s
TLB-8800-H-S	1420–1520 nm	10 dBm	>40 dB	>15 dB	2–2,000 nm/s
TLB-8800-H-850	835–850 nm	5 dBm	>40 dB	N/A	5–1,000 nm/s

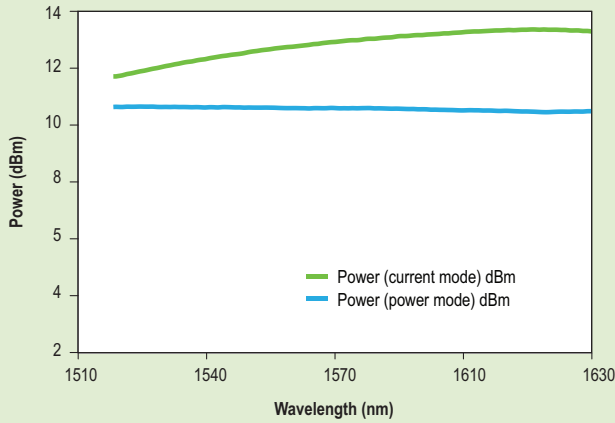
	Value
Power Stability (1 hr)	±0.01 dB
Power Repeatability	±0.01 dB
Power Flatness, typical	<±4%
Wavelength Stability (1 hr)	±0.003 nm
Absolute Wavelength Accuracy	0.03 nm
Wavelength Repeatability	0.010 nm
Tuning Mode	Swept or Step
Tuning Speed Flatness, typical	<±5%
Side Mode Suppression Ratio (SMSR)	>50 dBc
Relative Intensity Noise (0.1–5 GHz), typical	<-145 dB/Hz
Coherence Length in Swept Mode, coherence control off	>4 km
Linewidth, coherence control on <sup>2</sup>	>150 MHz
Scan Repetition Rate <sup>3</sup>	>5 Hz (100 nm scan @ 2,000 nm/s for standard model) >30 Hz (80 nm scan @ 10,000 nm/s for high speed model)
Step Size Resolution, step mode	0.01 nm
Wavelength Resolution	1 pm
Fiber Optic Connector	FC/APC
Fiber Type	SM or PM
User Interface	RS232, USB
Power Requirement	85–265 VAC (47–63 Hz), power consumption <75 W
Environment Temperature, operating	15–40°C
Environment Temperature, storage	0–50°C
Environment Humidity	Non-condensing

1. Due to our continuous product improvement program, specifications are subject to change without notice.

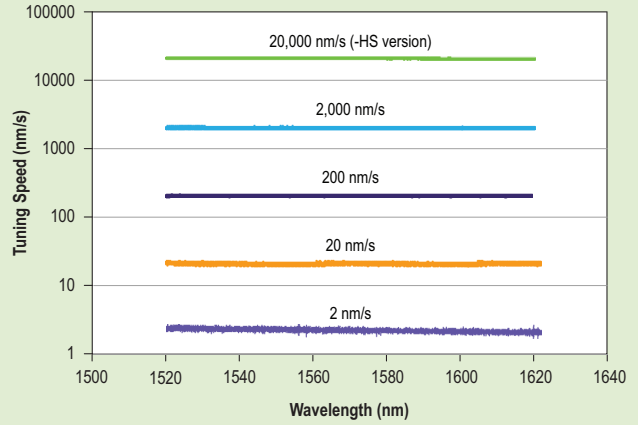
2. Coherence control is user adjustable.

3. Scan repetition rate is user adjustable by programming dwell time, sweep speed, and wavelength tuning range.

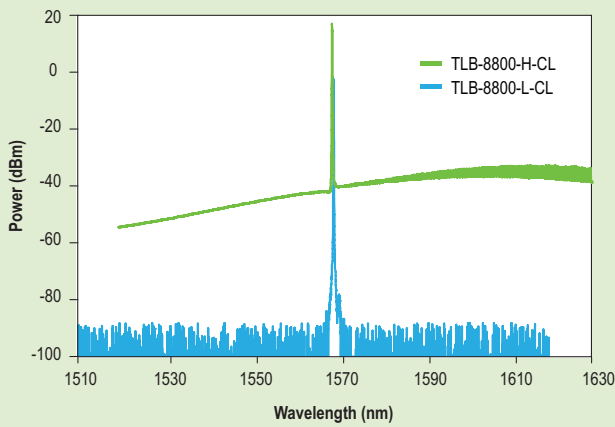
### Venturi TLB-8800 Swept-Wavelength Tunable Laser Performance<sup>1</sup>



### Tuning linearity for the model TLB-8800-H-CL<sup>1</sup>



### Carrier and ASE for the models TLB-8800-H-CL and TLB-8800-L-CL over the entire C+L tuning range<sup>1</sup>



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

### Venturi TLB-8800 Dimensions

