

Cavity-Dumped Ti:sapphire Laser



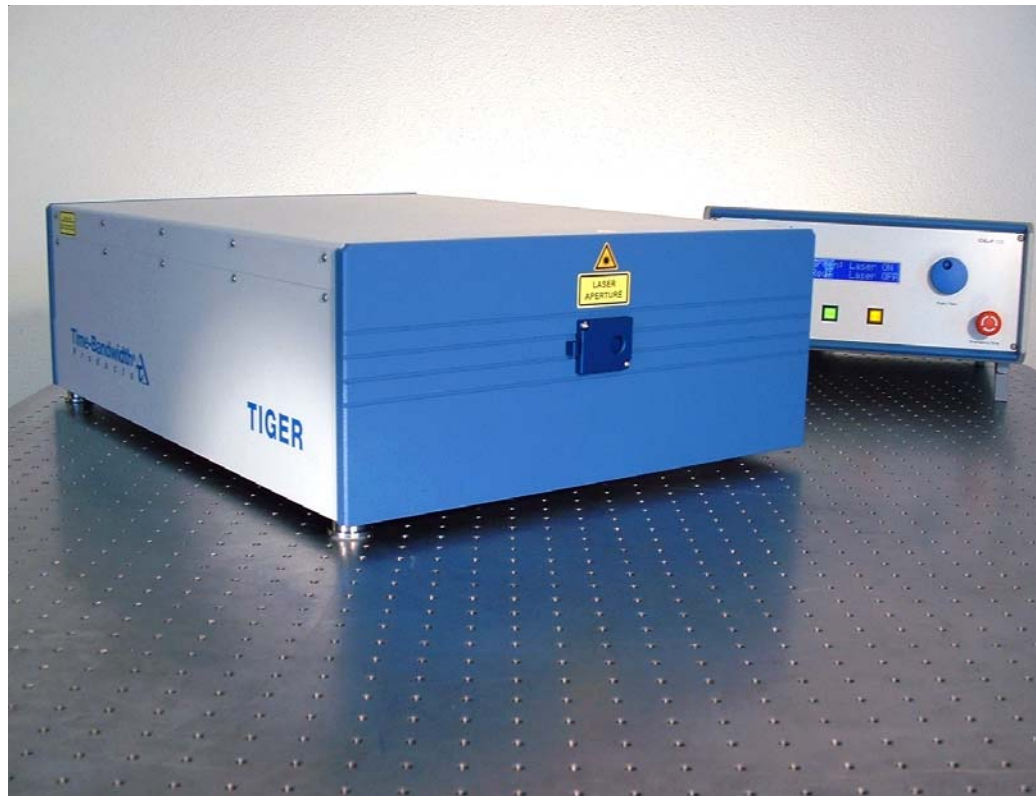
SESAM[®] Technology
Cavity dumping

Applications

- Nonlinear optics
- Time-resolved spectroscopy
- Multiphoton microscopy
- Pump-probe experiments
- Opto-electronic testing
- SHG on nanoparticles

Features

- Higher pulse energies at lower repetition rates
- Passively mode-locked DPSSL
- Integrated pump laser
- Turn-key operation
- Customizable design
- Low maintenance

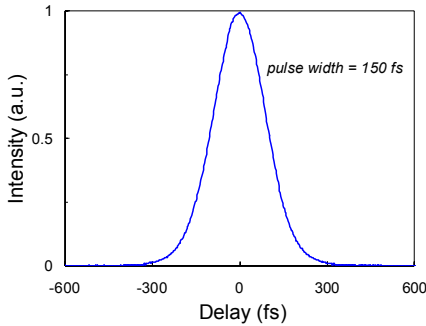


Options

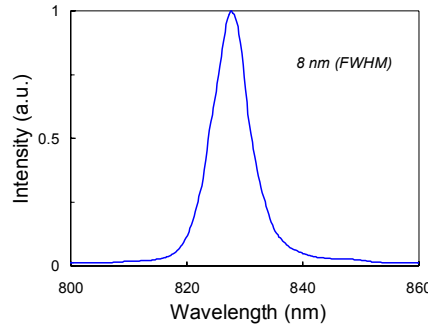
- Femto- or picosecond pulses
- Clock synchronization
- Second harmonic generation
- Switchable repetition rates
- Long-term power stabilization
- Remote control
- RS-232

	150 fs	pulse width
	780 nm – 860 nm	wavelength
single shot to 4.1 MHz		pulse frequency
	25 nJ	pulse energy
	1% / °C	power stability
	TEM ₀₀	spatial mode
	1.1	M ²

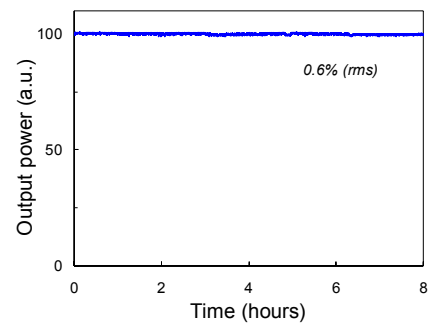
The TIGER laser combines "soliton mode-locking" - a balance between self-phase modulation (SPM) and dispersion in the laser cavity - with Time-Bandwidth Products' patented SESAM® device for improved pulse stability and reliable self-starting, with a compact all-solid-state green pump laser integrated into the laser head. This cavity-dumped version of the TIGER uses an acousto-optic deflector to switch pulses out of the cavity at user-settable repetition rates.



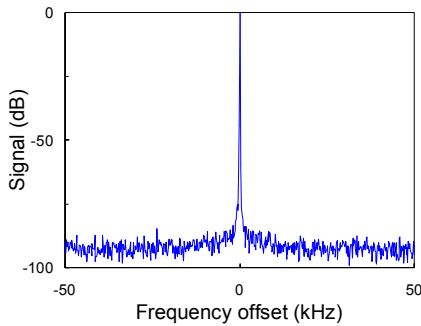
Typical non-interferometric autocorrelation trace of the TIGER-CD laser pulses



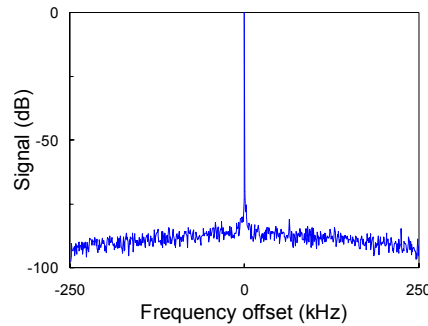
Optical spectrum of the TIGER-CD laser pulses at the center wavelength (resolution: 0.1 nm)



Average laser output power (long term)



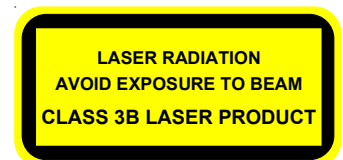
Typical microwave spectrum of the pulse train, centered at the laser repetition rate (span: 100 kHz, resolution: 30 Hz, vertical scale in dB)



Typical microwave spectrum of the pulse train, centered at the laser repetition rate (span: 500 kHz, resolution: 100 Hz, vertical scale in dB)

SESAM® passive mode-locking means higher stability, reliable self-starting with no pulse drop-outs, no complicated or noisy high frequency mode-locking electronics, and a robust solid-state pump laser. The design freedom provided by the SESAM® device allows for a laser system customizable in repetition rate, wavelength, and pulse widths from femtoseconds to picoseconds. Additionally, these lasers are less sensitive to the pump laser parameters than other approaches. This cavity-dumped version features pulse energies typically 10 times greater than directly from the laser, and the user-selectable repetition rates can be set from single-shot up to 4.1 MHz.

Additional specifications	TIGER-CD
tunability	50 nm
turn-on time	10 min
power stability (>1kHz)	0.5% rms at 4.1 MHz
voltage	100 VAC – 240 VAC
frequency	50 Hz – 60 Hz
input power (single phase)	1350 VA
laser head (size, weight)	460 mm x 190 mm x 932 mm, 60 kg
power supply (size, weight)	360 mm x 160 mm x 380 mm, 13.5 kg
chiller (size, weight)	220 mm x 390 mm x 280 mm, 9.5 kg



Does the TIGER-CD laser system match your requirements? Please let us know the specifications of the laser you are looking for. A superior technology and a strong team enable us to tailor our products to your special needs.

All specifications are subject to change without notice. All numbers given in this datasheet are typical values and may depend on the specific laser configuration. SESAM is a registered trademark in the following countries: USA, Switzerland, United Kingdom, Germany, Austria, Netherlands, Belgium, Luxembourg, France, Italy, Russia, China, Liechtenstein, Estonia, and Lithuania. This product is protected by one or several of the following patents: US6,538,298, US6,466,604, US5,987,049, EP1084527