



Laser Systems | Electronics | Wavelength Meters  
 TS:precise – Titan:sapphire laser

## NEW: Titanium:sapphire laser product line (TS-series)

- Perfect beam parameters
- Modular design
- Easy to use: almost no user adjustments needed
- Stand alone device
- Robust and compact solid-state design

### TS:precise series

Ultra-narrow tunable solid-state laser for atom cooling high resolution spectroscopy, optical tweezing and holography

- Linewidth: < 10 kHz
- Scanning range: > 10 GHz, mode-hop free
- Operating wavelength: selectable between 670 and 1100 nm
- Tuning range:  $\pm 10$  nm
- High output power: up to 3 W
- Efficient fiber-coupling due to excellent beam profile
- Integrated SHG (Second Harmonic Generation): choose between intracavity or ppln doubling

### TS:fast series<sup>1)</sup>

High-speed tunable solid-state laser for ultra quick scans in physical, biological and medical applications

- Linewidth: 30 GHz
- Tuning range:  $\pm 150$  nm
- Tuning speed: up to 500 Hz (depending on tuning range)
- High output power
- Fiber coupling

1) The TS:fast series is still in development. Specifications of the final product may vary from those mentioned above. For further information please contact us.



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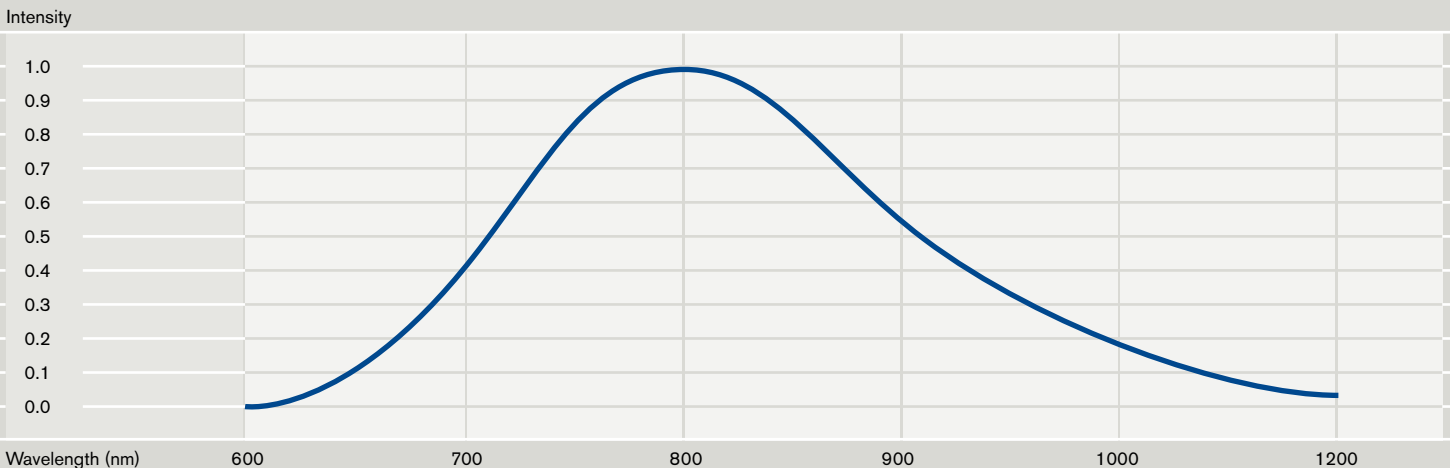
# CW Titanium:Sapphire Laser

The TS:precise was developed to take advantage of the titanium-sapphire laser benefits (such as: narrow linewidth, good beam profile and high output power), without losing easiness and user-friendly adjustment. The casing contains not only the Ti:sapphire, but also the pump laser and an optional frequency doubling. This combination makes the overall structure not only compact but also robust. The modular design allows easy and rapid exchanging of individual modules, such as the frequency doubling, which provides a high flexibility without worrying about compatibility.

Laser specifications	Unit	TS:precise	TS:precise 781
Wavelength	nm	670 – 1100	781
Linewidth	kHz	< 10	
Tuning range	nm	$\pm 10 \text{ nm}^2$	$\pm 10 \text{ nm}$
Output Power	W	max. 3 W	max. 1.5 W
Polarization		horizontal	
SHG wavelength	nm	according to Ti:Sa wavelength	390.5
SHG tuning range	nm	$\pm 10 \text{ nm}^2$	381.5 – 392.5
SHG output power	mW	depends on chosen Ti:Sa wavelength range	300 – 400 (intracavity); 20 – 30 (PPLN)
SHG polarization		vertical	
Mode-hop free scanning range	GHz	> 10	
Transverse mode		TEM <sub>00</sub>	
Beam quality	(M <sup>2</sup> )	1.0 – 1.1	
Amplitude stability		< 0.5 %	
Power consumption	W	500 W <sub>max</sub> + 300 W <sub>typical</sub>	
Dimensions L x W x H	mm	622 (670 with handles) x 572 x 237	

2) Broader ranges on request

## Expected beam intensity at a chosen wavelength



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