

# Sprite-t

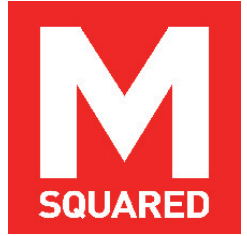
Widely Tunable/Broadband  
Automated Ultrafast Ti:Sapphire Lasers

## 脉动科技有限公司

中国代理商

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## Applications

- Nonlinear optics
- Pump-probe experiments
- Multi-Photon Excitation (MPE) or CARS microscopy
- THz generation
- Amplifier seeding
- Electro optic sampling

## Features

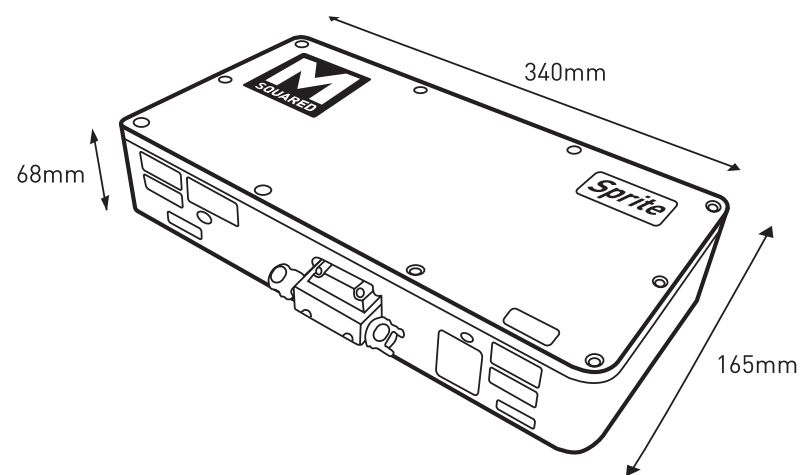
- Fixed wavelength ps (XT-P) or broad bandwidth (XP) for <math><15\text{fs}</math> with external compression
- Sealed, alignment & maintenance-free laser heads
- Pump (not shown) integrated on baseplate with PowerMax™ active pump beam alignment for superb power stability
- Invariant™ alignment-free mounts for compact footprint, hands-free use, & high stability at all repetition rates
- Compact, sealed laser heads for easy purging when operating near atmospheric absorption lines
- Unique Instrument Control by Ethernet, with included netbook, software interface & laser controller (not shown)
- 76MHz to 2GH repetition rate options
- Custom specifications available - please enquire

**Specifications <sup>[1]</sup>**
**Sprite-t-XT-P Tunable Oscillator**
**Sprite-t-XP-7 Broadband Oscillator**

Wavelength Range	Fixed in 720-940 nm range	780-820 nm (with >100 nm bandwidth) <sup>[2][3][4]</sup>
Output Power (Modelocked)	>0.6 W at ~725 nm >1.3 W at ~800 nm >0.6 W at ~935 nm	>0.5 W at ~800nm
Pulse Width	< 7 ps (XT-P) <sup>[2][5][10]</sup>	Near-FTL (with external GVD compensation)
Amplitude Noise <sup>[6]</sup>	< 0.2 %	< 0.2 %
Output Power Stability <sup>[7]</sup>	< ± 1%	< ± 1 %
Pulse Repetition Rate <sup>[8]</sup>	80 MHz	80 MHz
Polarisation	Horizontal, >100:1	Horizontal, >100:1
Spatial Mode	TEM <sub>00</sub> (M <sup>2</sup> <1.2)	TEM <sub>00</sub> (M <sup>2</sup> < 1.2)
Beam Ellipticity <sup>[9]</sup>	0.9 to 1.2	
Astigmatism	< 10 %	
Operating Voltage	90-264 Vac, 47-63 Hz	
Maximum Operating Current	< 3 A at 100 Vac < 1.5 A at 230 Vac (laser head + integrated pump + controller + PC)	< 0.2 A at 100 Vac < 0.1 A at 230 Vac (laser head + controller + PC)
	< 6 A at 100 Vac (closed-loop chiller. Upper limit, actual value depends on laboratory conditions)	
Operating Temperature Range	20 to 35 °C (68 to 95 °F)	

**Notes:**

- Unless stated otherwise, all specifications apply to: the peak of tuning curve; ambient temperature change of < ±2°C; after 60-minute warm-up; provided the pump laser is operated at its nominal rated output power with recommended pump source; & provided Sprite is not operated on or near strong atmosphere absorption lines without purge.
- Factory preset, fixed.
- If suitable external pulse compression is used, this bandwidth supports sub- 15fs (pulse width).
- Measured at centre of bandwidth.
- Assumes sech<sup>2</sup>(t) deconvolution of 0.65x autocorrelation width.
- Measured RMS in a 10Hz to 20MHz bandwidth.
- Output power change measured in any two-hour period after one-hour warm-up with less than +/- 1°C ambient temperature change.
- Nominal value . Other factory preset, fixed custom values available upon request: e.g. 76MHz (-XT); 76MHz to 2GHz (-XP). Please inquire.
- Ratio of major to minor 1/e<sup>2</sup> intensity beam diameter at output port.
- XT-P version not Fourier transform limited.


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M Squared Laser's laser products are certified to comply with the Federal Regulations (21 CFR Subchapter J) as administered by the Centre of Devices and Radiological Health on all systems ordered for shipment after October 1st, 2003.

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04.14/Sprite-t

