

CW Tunable UV Visible

Fully Automated

## FULLY-AUTOMATED, BROADBAND UV AND VISIBLE SHG MODULE



# 脉动科技有限公司

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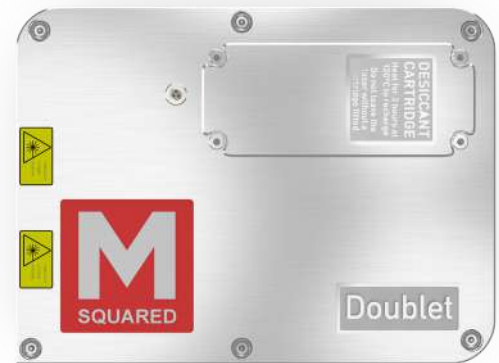
The world's first fully-automated, self-aligning, sealed, high-power, continuous-wave, SHG cavity capable of rapid and precise, broad wavelength tuning and scanning in the UV and Visible up to 150 nm.

## APPLICATIONS

- High-resolution spectroscopy in UV and Visible
- Interferometric writing
- Holography
- Quantum computing, sensing and communications
- Optical lattices
- Quantum emitters
- Atom/ion trapping and cooling
- Raman spectroscopy
- Microscopy
- Radiometric and spectral calibration and characterisation

## FEATURES

- Fully automated operation with no manual intervention required
- High-speed, high-resolution stepped and continuous scanning over extended tuning ranges
- Highly efficient, self-aligning resonant doubling of CW input light delivering >2 W at select wavelengths
- Compact design for easy integration
- Sealed cavity for gas purging and contaminant-free operation enabling longer lifetime
- Broad wavelength tunability for diverse application requirements
- Ultra-narrow linewidth and large coherence length (km)
- Easy-to-use remote operation via a web-based control interface
- Simple integration including LabVIEW API
- Low amplitude and frequency noise
- Incorporates M Squared's Dial-A-Wavelength and Terascan functionality



SolsTiS Doublet, a fully-automated, self-optimised, sealed, high-power SHG cavity.

## SPECIFICATIONS

Wavelength Broadband continuous tuning options available between 350 nm and 525 nm:

Model	Tuning range
SolsTiS Doublet 50	50 nm
SolsTiS Doublet 100	100 nm
SolsTiS Doublet 150	150 nm

Linewidth <200 kHz at 100  $\mu$ s

Relative intensity noise <0.1 % rms, 10 Hz - 10 MHz

Frequency stability <100 MHz /  $^{\circ}$ C with incorporation of standard wavemeter, includes options for enhanced frequency stability

Output power >2 W at peak (400 $\pm$ 10 nm)

Model	Tuning range	Average power
SolsTiS 5000	350 nm - 380 nm	>0.8 W
SolsTiS 5000	381 nm - 420 nm	>1.5 W
SolsTiS 5000	421 nm - 460 nm	>1 W
SolsTiS 5000	461 nm - 500 nm	>0.4 W
SolsTiS XL	501 nm - 525 nm	>0.15 W
SolsTiS 2000	350 nm - 380 nm	>0.4 W
SolsTiS 2000	381 nm - 420 nm	>0.7 W
SolsTiS 2000	421 nm - 460 nm	>0.5 W
SolsTiS 2000	461 nm - 500 nm	>0.2 W

Continuous scan range 40 GHz - can be extended to 10 nm's with Terascan option

Wavelength step duration 10 - 30 s dependent on step size

Power stability <1 % rms over 24 hours, assuming 1  $^{\circ}$ C temp stability

Spatial mode TEM<sub>00</sub>

Beam quality (M<sup>2</sup>) <1.2

## SPECIFICATIONS

Beam circularity	1.0 ±0.1
Astigmatism	<15 %
Beam waist diameter	0.6 ±0.1 mm, horizontal and vertical, FW @ 1/e <sup>2</sup> points, (configurable)
Beam divergence	< 1.1 mrad full angle, FW @ 1/e <sup>2</sup> points
Polarization direction	Vertical ±3 degrees
Polarization ratio	>100:1
Beam pointing temperature tolerance	<50 μrad / °C
Beam pointing with wavelength	<25 μrad / nm average

### Operating Environment Requirements:

Ambient temperature range: 18 - 25 °C

Max relative humidity: 80 %, non-condensing in operating range

Air: free of dust but can be operated in non-clean rooms due to sealed cavity

Mounting: laser will be mounted in a stable configuration and will not be subject to significant mechanical disturbances or vibration

Dimensions: 215 x 160 x 112 mm (8.5 x 6.3 x 4.4") L x W x H

Cooling: none but closed-loop water chiller supplied with SolsTiS laser

Power consumption: <1500 W total with SolsTiS, Equinox and chiller

Electrical requirements: 100 - 240 V, 50/60 Hz single phase

## SOLSTIS EXTENSIONS

A range of extensions are available to enhance the wavelength coverage of the system, helping you to explore new regions.



CW Tunable NIR

### SOLSTIS

A step-change in continuous-wave Ti:Sapphire laser technology - compact, ultra-narrow linewidth, fully automated and widely tunable.



CW Tunable UV

### SOLSTIS ECD-X-Q

A compact frequency quadrupling module that extends the range of SolsTiS output wavelengths to produce narrow linewidth, tunable output in the ultraviolet.



CW Tunable UV Visible IR

### SOLSTIS EMM

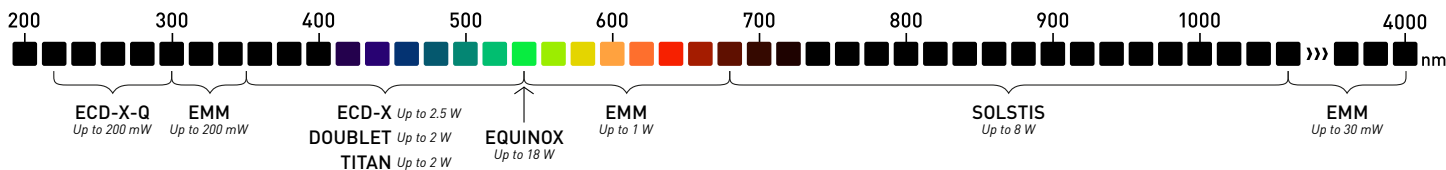
An external mixing module that offers fully automated tuning in the visible and IR with further extension options into the UV.



CW

### EQUINOX

A single frequency CW 532 nm laser up to 18 W. It's inherently stable, reliable, low noise and narrow linewidth.



## CONTACT US

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