

Equinox

DATASHEET

CW

SINGLE FREQUENCY
CW 532 NM LASER
Up to 18 W

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SINGLE FREQUENCY CW 532 NM LASER

Equinox is a single frequency CW 532 nm laser (up to 18 W). It's inherently stable, low noise, narrow linewidth and naturally compact, robust and fully-automated.

APPLICATIONS

- Pump source for Ti:Sapphire laser systems (CW or pulsed)
- Pump source for dye lasers and frequency doublers
- Single mode frequency mixing source
- Optical tweezers and optical trapping
- Biomedical imaging

Additional applications include nonlinear frequency generation, Raman spectroscopy and microscopy, interferometry, laser doppler velocimetry, fluorescence imaging holography and holographic storage, biomedical imaging, Brillouin scattering, DNA sequencing, flow cytometry and cell sorting, lithography, ophthalmology and optogenetics.



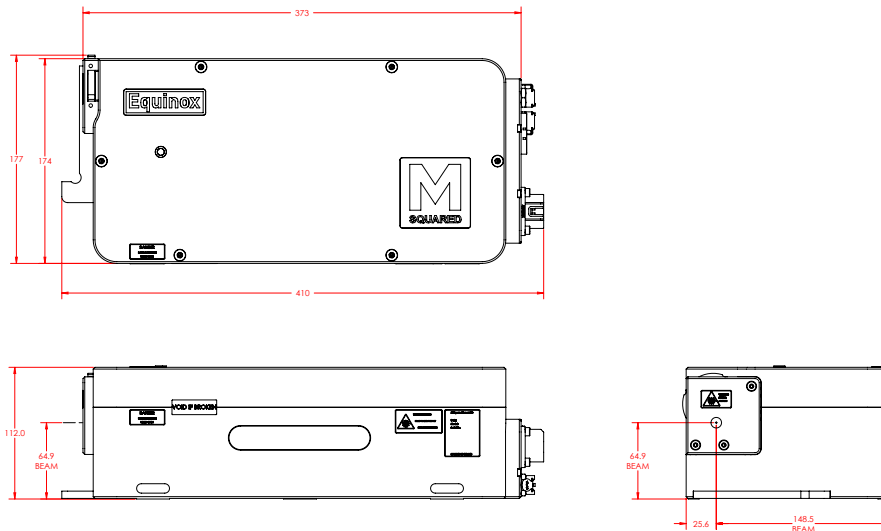
FEATURES

- **SINGLE FREQUENCY**
Equinox is a true single frequency pump, so it's inherently stable and quiet.
- **EXCEPTIONAL MECHANICAL AND THERMAL STABILITY**
This completely sealed system is built on an Invar baseplate to minimise effects from vibrations and thermal variations and provides maximum long-term stability and reliability.
- **LOW NOISE**
Designed with highly engineered optomechanical and electronic designs which enable it to achieve low amplitude noise levels <math><0.05\% \text{ RMS}</math>.
- **HIGH POWER**
Equinox has options of output power up to 18 W.
- **COMPACT**
Equinox measures 410 x 177 x 112 mm (L x W x H). The pump diodes are incorporated within the central unit and connected by flexible, low footprint cables - no bulky umbilical.
- **NARROW LINEWIDTH**
A linewidth <math><1 \text{ MHz}</math> makes it one of the narrowest linewidth lasers in its class.
- **COMPATIBLE WITH SOLSTIS**
Equinox is fully compatible with M Squared's SolsTIS platform and its range of extensions.
- **EASY TO CONTROL**
Easy-to-use web interface controls operation parameters during use as well as a published set of TCP/IP controls for third-party applications such as LabVIEW and MATLAB.

SPECIFICATIONS

Average Power	>18 W
Wavelength	532 nm
Linewidth ¹	<1 MHz
Beam Diameter ²	2.3 mm +/- 10%
Beam Divergence	<0.45 mrad, far field, full angle
Spatial Mode	TEM ₀₀ (M ² < 1.1)
Asymmetry	<10%
Astigmatism ³	<0.2
Power Stability ⁴	+/- 0.5%
Amplitude Noise ⁵	<0.05% RMS
Polarisation	>100:1
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Controller Interface	Ethernet + webpage +TCP/IP remote interface
Equinox Dimensions	410 x 177 x 112 mm (L x W x H)
Ice Bloc Controller Dimensions Option 1	535 x 230 x 196 mm (L x W x H)
Ice Bloc Controller Dimensions Option 2	382 mm x 354 x 106 mm (L x W x H)
AC Power	90 - 264 VAC, 800 W maximum
Cooling	Supplied closed-loop water chiller
Environmental Requirements	Operating temperature range: 16-30°C Maximum relative humidity 80% non-condensing
Laboratory	Mount on optical table Air free of dust (laminar air flow box recommended) Temperature variation less than +/- 2°C

BEAM POSITIONING



1. Measured over 50 us.
2. 1/e² intensity (nominal at output port).
3. Defined as distance between sagittal and tangential focus position divided by mean Rayleigh range.
4. Measured over 1 hour after 30 minutes warm-up time.
5. Measured from 10 Hz to 2 MHz.

RELATED PRODUCTS



CW Tunable NIR

SOLSTIS

The award-winning SolsTiS is a step-change in continuous-wave Ti:Sapphire laser technology. It's compact, ultra-narrow linewidth, fully automated, low noise and widely tunable.



CW Tunable UV

SOLSTIS ECD-X

A compact frequency conversion module that extends the range of SolsTiS output wavelengths via frequency doubling in a resonant cavity with optimised conversion efficiency.



CW Tunable UV

SOLSTIS ECD-X-Q

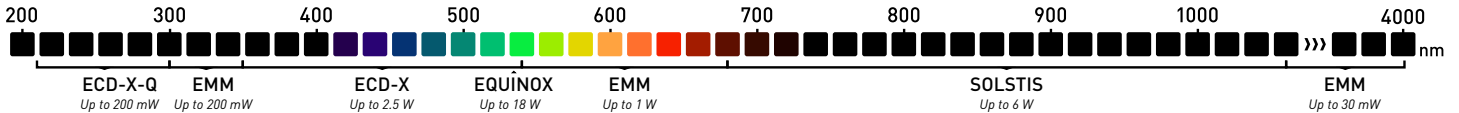
This SolsTiS extension adds a frequency quadrupling feature to SolsTiS, producing a narrow linewidth, tunable output in the ultraviolet.



CW Tunable UV Visible IR

SOLSTIS EMM

The SolsTiS External Mixing Module provides fully automated tuning in the visible (500-680 nm) and IR (1.1-4 μm) with further extension options into the UV (300-350 nm).



CONTACT US

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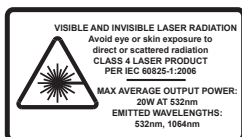
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