

IXION 193

TEM₀₀ beam profile
Diode laser pumped
Q-Switched solid-state laser
Single-frequency wavelength 193.368 nm



General description

The IXION 193 SLM is a single-frequency all-solid-state laser system for applications such as optical metrology, calibration of 193 nm stepper optics or bandwidth control of high power ArF excimer lasers. The spectral bandwidth of less than 80 MHz is near its theoretical Fourier limit.

The center wavelength of the system is customizable in a range between **185** and **194 nm** and can be pre-configured to a fixed wavelength at the time of purchase.

As an option a high precision spectrometer with an absolute spectral accuracy of 0.001 nm is integrated into the system. This allows maximum control of the spectral tuning of the laser.

Product specifications

Model	IXION 193 SLM
Wavelength	193.368 nm
Average power	10 mW
Pulse duration (typ)	8-12 ns
Energy per pulse	1.6 µJ
Repetition rate	1-15 kHz
M²	< 1.6
Spectral bandwidth	80 MHz ⇔ 0.01 pm ⇔ 0.0027 cm ⁻¹
Coherence length ¹⁾	> 2 m
Spectral tunability	> 80 GHz ⇔ 10 pm ⇔ 2.6 cm ⁻¹

1) 50% contrast
Data at 6 kHz pulse repetition rate.
Specifications are subject to change
without notice due to product improvement.

Applications

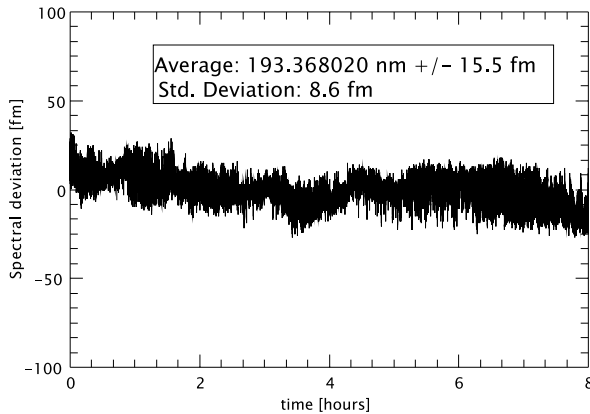
Spectrometer calibration
Lithography
Interferometry
193 nm metrology
Injection seeding of Excimer lasers

Optional

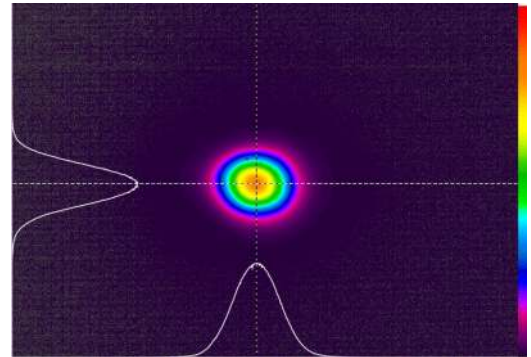
Graphical user interface
LabVIEW libraries
Precision spectrometer
Center wavelength: between 185-194nm
CDRH compliance shutter

Typical performance

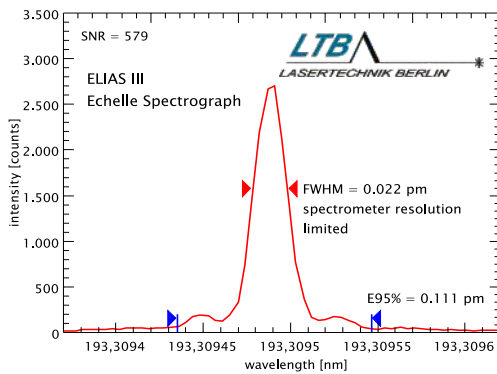
Wavelength stability



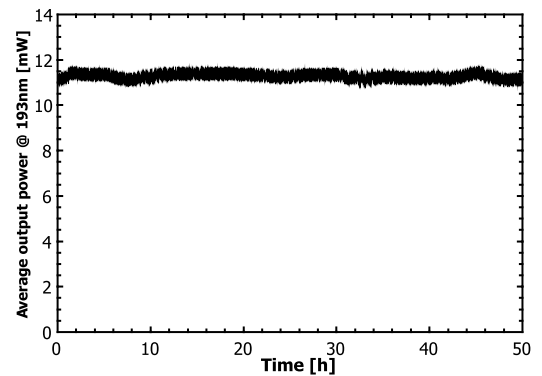
Beam profile



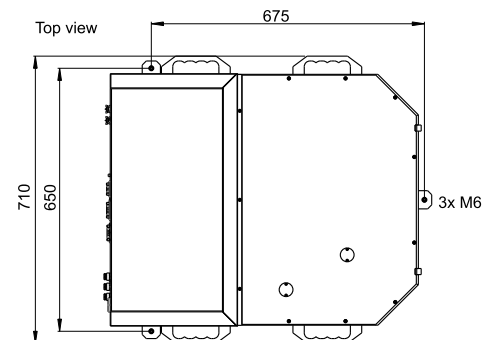
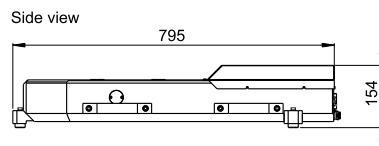
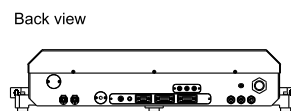
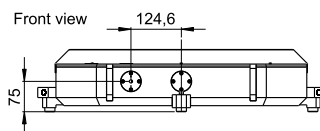
Spectral characterizatton



Long term stability



Dimensions laser head



System dimensions (L x W x H), weight

Laser head	795 x 710 x 154 mm ³	74 kg
Power supply (including chiller)	600 x 600 x 600 mm ³	78 kg

Electrical characteristics

Operating voltage	85-264 VAC
Frequency	47-63 Hz
Power consumption	650 W typ

Visible and/or invisible laser radiation. Avoid eye or skin exposure to direct or scattered radiation.
Class 4 laser (IEC 60825-1)



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