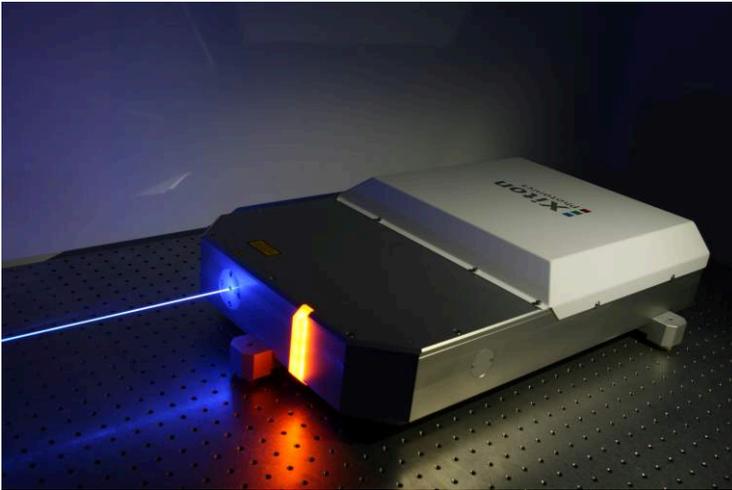


**Single Longitudinal Mode, TEM₀₀ beam profile, Q-switched solid-state laser
Wavelengths 355 nm**



Due to a cw single-frequency seed the consecutive laser pulses remain in phase to allow stable interference patterns, e.g. for exposing directly lithographic films. In addition the 2W average output power promise short exposure times for a high throughput.

This combination out of short 355 nm wavelength, 2 W high average output power and single frequency emission is a unique feature combination for a solid state laser.

General Description

The SLM-355 is a single-frequency all-solid-state laser system for applications in the UV such as optical metrology, calibration of spectrometers and holographic applications. The spectral bandwidth of less than 80 MHz is near its theoretical Fourier limit.

The laser provides short output pulses with a duration of $\Delta t < 10$ ns in a diffraction-limited beam with $M^2 < 1.3$ at repetition rates between 1 and 20 kHz. The average output power is more than 2 W at 355 nm with ultra-stable pulse traces and a high coherence length of more than 1 m not presentable with conventional lasers.

Applications

- Interferometry
- Raman Spectroscopy
- Holography
- Spectrometer Calibration
- Metrology

Product Specifications

| | |
|----------------------|------------------|
| wavelength | 355 nm |
| spectral bandwidth | < 80 MHz |
| coherence length | > 1 m |
| average power | > 2.0 W |
| pulse duration | < 10 ns |
| energy per pulse | > 200 μ J |
| repetition rate | 1 – 20 kHz |
| M ² | < 1.3 |
| pulse-to-pulse stab. | $\sigma < 2.0$ % |

Features

- Single frequency emission
- Diode laser pumped
- Sealed housing
- Slot mounted laser diode
- Excellent beam profile
- High pulse power
- Low pulse-to-pulse fluctuation
- Maintenance-free thermo-electrical heat management
- 19"-rack power supply and chiller

* Data at 10 kHz pulse repetition rate. Specifications are subject to change without notice due to product improvement.

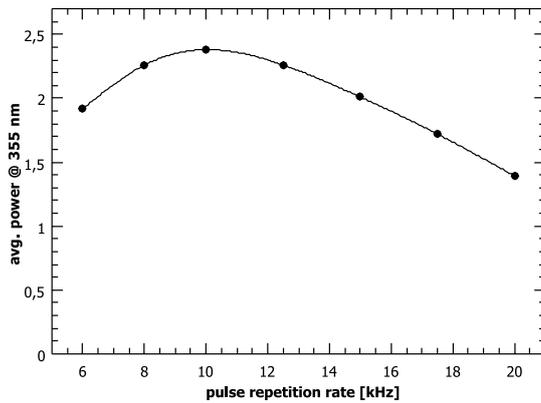
System Dimensions (L x W x H), weight

| | | |
|--------------------------|---------------------------------|---------|
| Laser head | 635 x 461 x 154 mm ³ | 43 kg |
| Power supply (2x) | 447 x 440 x 134 mm ³ | 16.8 kg |
| Controller | 447 x 440 x 134 mm ³ | 8.8 kg |
| Chiller | 447 x 381 x 134 mm ³ | 18.7 kg |

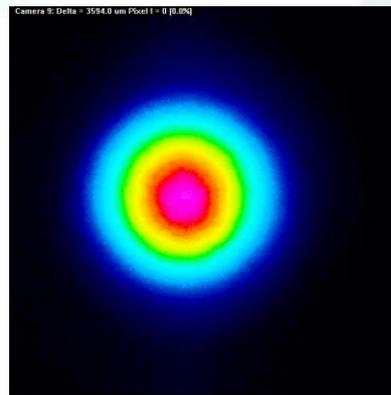
Electrical Characteristics

| | |
|--------------------------|---------------|
| Operating voltage | 85 - 264 V AC |
| Frequency | 47 - 63 Hz |
| Power consumption | 800 W |

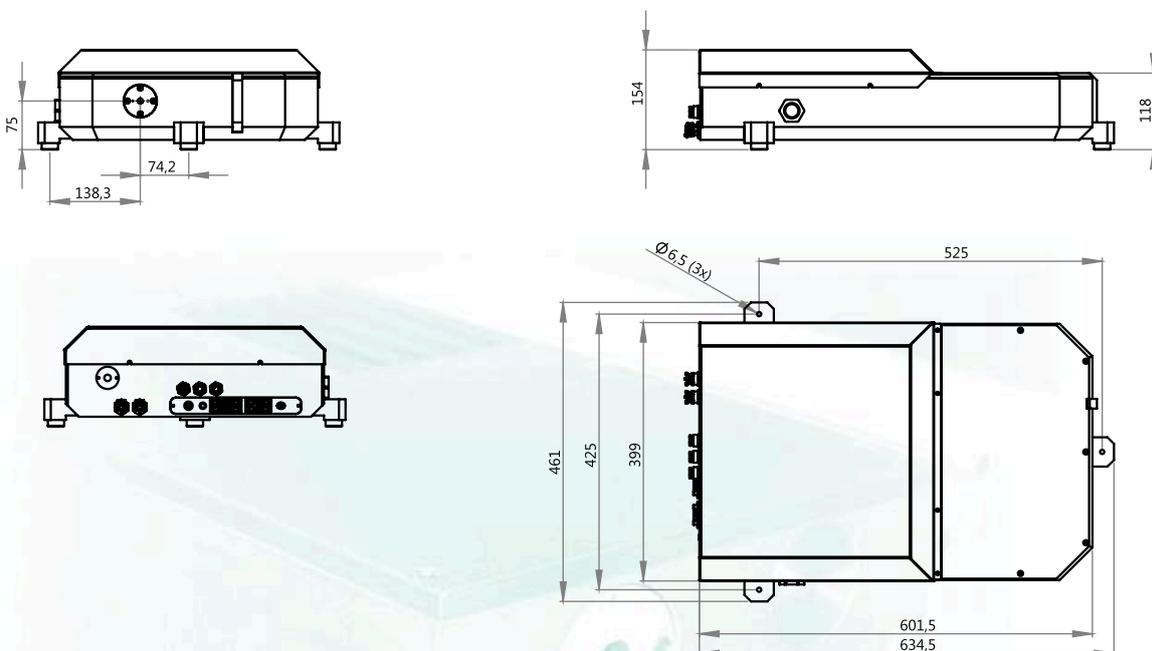
Typical Performance



Beam Profile



Dimensions Laser Head



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



Xiton Photonics GmbH
Kohlenhofstrasse 10
D-67663 Kaiserslautern
Germany

Tel.: +49 (0)631 414 9944-0
Fax: +49 (0)631 414 9944-9
sales@xiton-photonics.com
www.xiton-photonics.com