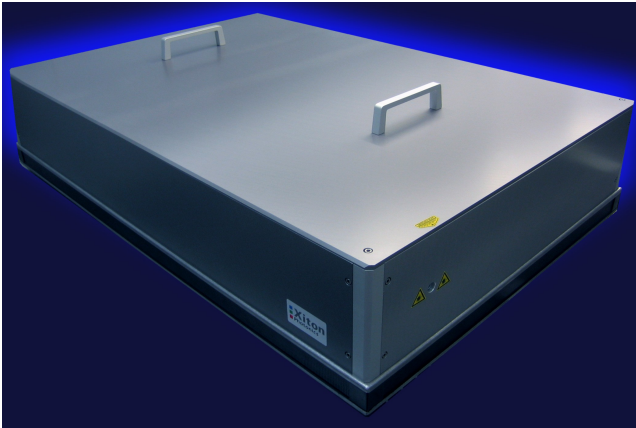


## Computer controlled Q-switched Optical Parametric Generator tuning wavelengths 1350-2000/5000-2300 nm



### General Description

The XOPG-series are high power solid-state laser pumped optical parametric generators which emit continuously tunable radiation at a signal output wavelength from 1350 to 2000 nm corresponding to idler radiation from 5000 to 2300 nm. The XOPG-series consist of periodically poled lithium niobate crystals with a period of the ferroelectric domains from 20 to 31.8  $\mu\text{m}$ . Both, single-structured and multi-structured OPG crystals are available on demand. Continuous wavelength tuning within the maximum tuning range is achieved by changing the OPG crystal temperature and the grating period (from 20 to 31.8  $\mu\text{m}$ ). Pumped by the 10 ns output pulses of the XVL-AMP series at a maximum

average pump level of 10 W, the OPG provides output pulses with a duration of < 10 ns at a total average output power of up to 2.0 W which refer to a pulse repetition rate of 10 kHz. At these pump levels, the spatial beam quality parameter is  $M^2 < 4$ . Within the maximum tuning range, the spectral bandwidth of the OPG output is about several hundred GHz and varies depending on the appointed wavelength. A crucial reduction of the spectral bandwidth can be achieved by pumping the XOPG-series with the SLM-series laser and injection seeding with the narrowband radiation of a DFB diode laser. As a result, the XOPG linewidth is decreased to less than 200 MHz, which makes the XOPG-series suitable for spectroscopic applications. Please contact us for further information about output powers and tuning ranges.

### Applications

- Fundamental research
- Spectroscopy
- LIDAR

### Features

- Automatic motorized wavelength control
- Diode-laser-pumped
- $M^2 < 4$
- High pulse power
- Low pulse-to-pulse fluctuations
- RS-232 interface

### Product Specifications

model	XOPG
<b>Tuning range</b>	1350 - 2000 nm 5000 - 2300 nm
<b>Spectral bandwidth (seeded system)</b>	< 200 MHz
<b>Average total power</b>	> 2 W
<b>Pulse duration</b>	< 10 ns
<b>Repetition rate</b>	5 - 20 kHz
<b><math>M^2</math></b>	< 4

Specifications are subject to change without notice due to product improvement.

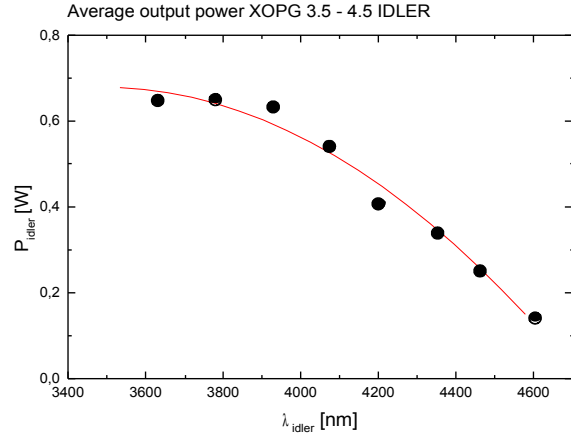
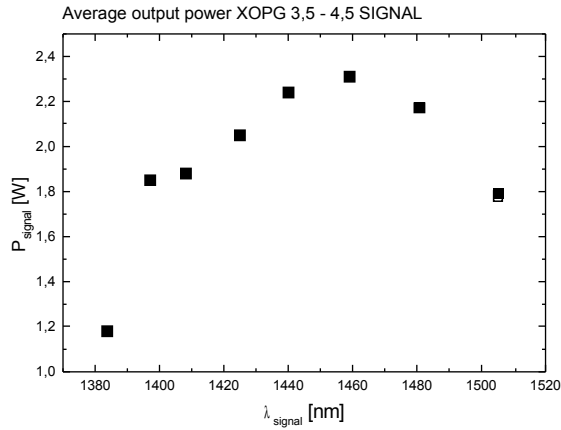
### System Dimensions (L x W x H), weight

<b>Laser head</b>	900 x 600 x 210 mm <sup>3</sup>	22 kg
<b>Power supplies</b>	446 x 440 x 134 mm <sup>3</sup>	23.5 kg
<b>Chiller</b>	446 x 440 x 134 mm <sup>3</sup>	24.0 kg

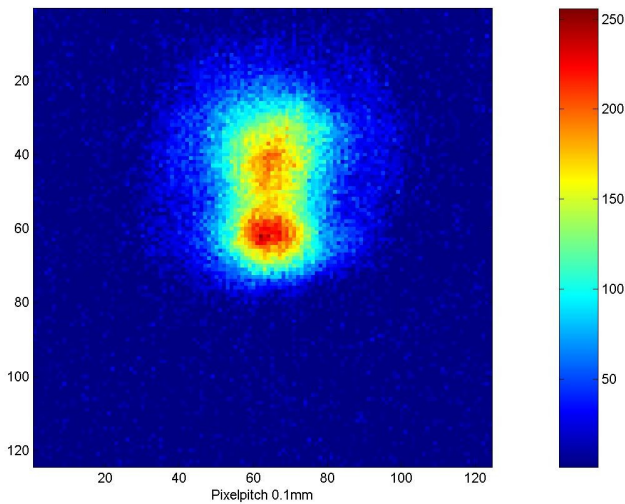
### Electrical Characteristics

<b>Operating voltage</b>	85-264 VAC
<b>Frequency</b>	47 - 63 Hz
<b>Power consumption</b>	900 W max., 450 W typ.

## Typical Performance



### Beam profile (4000 nm @ 400 mW output power)



Visible and/or invisible laser radiation. Avoid eye or skin exposure to direct or scattered radiation.  
Class 4 laser ( IEC-825)



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