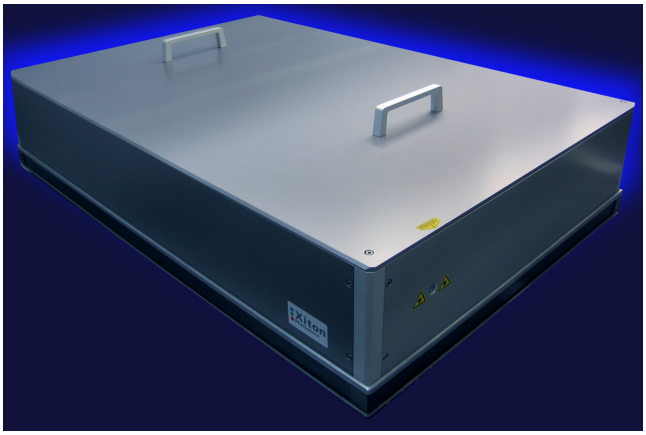
XOPG

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 µm. 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 µm). 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 bandwith 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 linewidhth 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
Tuning range	1350 - 2000 nm 5000 - 2300 nm
Spectral bandwidth (seeded system)	< 200 MHz
Average total power	> 2 W
Pulse duration	< 10 ns
Repetition rate	5 - 20 kHz
M^2	< 4

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

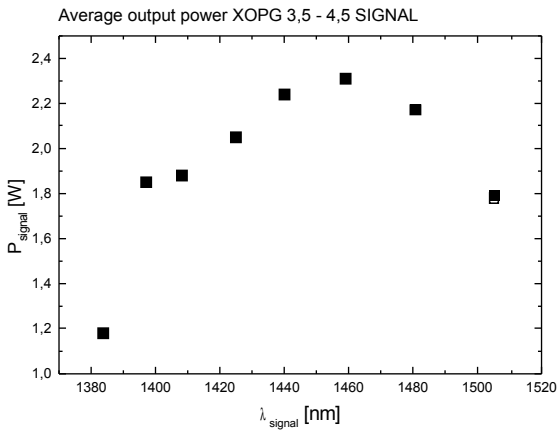
System Dimensions (L x W x H), weight

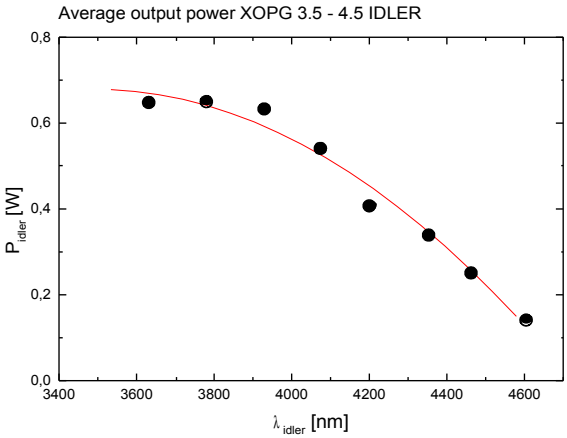
Laser head	900 x 600 x 210 mm^3	22 kg
Power supplies	446 x 440 x 134 mm^3	23.5 kg
Chiller	446 x 440 x 134 mm^3	24.0 kg

Electrical Characteristics

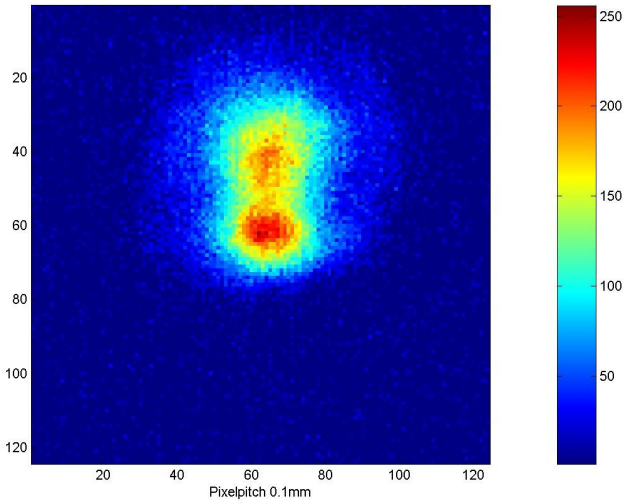
Operating voltage	85-264 VAC
Frequency	47 – 63 Hz
Power consumption	900 W max., 450 W typ.

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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