

OPG100

SERIES

Nanosecond Tunable Parametric Systems

FEATURES

- Tunable within **420–2300 nm**.
Optional **UV** extension within **210–355 nm**
- Up to **35%** total efficiency
- Spectral bandwidth less than **5 cm⁻¹**
- **Hermetically** sealed cavity
- **Microprocessor** based control system
- **Remote** control via keypad
- **PC** control using RS232 and **LabView** drivers
- **Compact** size

APPLICATIONS

- Laser induced fluorescence
- Photolysis
- Photobiology
- Photochemistry
- Remote sensing
- LIDAR
- Time-resolved spectroscopy
- Nonlinear optical materials
- Your application is welcome...



OPG100 series optical parametric oscillator (OPO) is a solid state continuously tunable source of visible and IR radiation. With the optional SH extension the tuning range can be extended down to UV (210 nm).

Featuring hands free operation and compact size, this system is an attractive tool for many scientific and environmental applications where reliable long-term operation is required.

Wavelength tuning is achieved by automatic rotation of nonlinear crystals by stepper motors.

Filters or Glan prism separates signal and idler waves. Thermo-stabilized BBO crystals and all optical cavity elements are hermetically sealed to protect them against dust and humidity.

Microprocessor based control system provides precision automatic positioning of relevant components allowing hands-free operation.

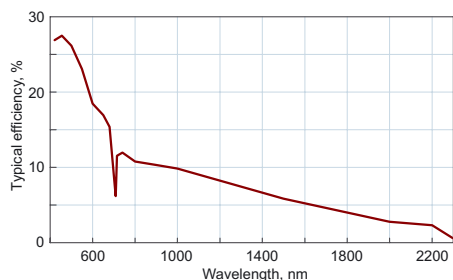
For customer convenience the laser is controlled through its RS232 type PC interface with LabView drivers (included) or a user-friendly remote control pad. Both options allow easy control of laser settings.

SPECIFICATIONS

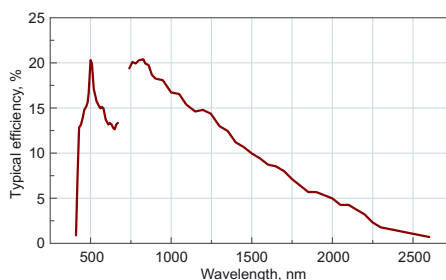
| MODEL | PG121 | PG122 | PG122/UV |
|---------------------------------|-------------|------------------------------------|---------------------|
| OPG SPECIFICATIONS | | | |
| Wavelength range, nm | | | |
| Signal | 420–680 | 420–709 | 420–709 |
| Idler | 740–2300 | 710–2300 | 710–2300 |
| UV | – | – | 210–355 |
| Max conversion efficiency, % | 35 | 30 | 30/20 ¹⁾ |
| Linewidth, cm ⁻¹ | 10–110 | <5 | <5 |
| Scanning step, nm | | | |
| Signal | 0.1 | 0.1 | 0.1 |
| Idler | 1 | 1 | 1 |
| UV | – | – | 0.1 |
| Beam polarization | | | |
| Signal | horizontal | horizontal | horizontal |
| Idler | horizontal | vertical | vertical |
| UV | – | – | vertical |
| PUMP LASER REQUIREMENTS | | | |
| Pump wavelength, nm | | 355 | |
| Pump pulse energy, mJ | | 50–400 | |
| Pulse duration, ns | | 3–20 | |
| Beam polarization | | vertical | |
| Beam diameter, mm | | 6–10 | |
| Beam divergence, mrad | | <0.5 | |
| Beam profile | | homogeneous | |
| PHYSICAL CHARACTERISTICS | | | |
| Size (W×H×L), mm | 274×110×220 | 274×110×220 | 445×240×445 |
| OPERATING REQUIREMENTS | | | |
| Room temperature, °C | | 15–30 | |
| Voltage | | 110–240 VAC single phase, 50/60 Hz | |
| Powering, W | | <60 | |

¹⁾ SH from OPO signal.

Specifications are subject to changes without advance notice.



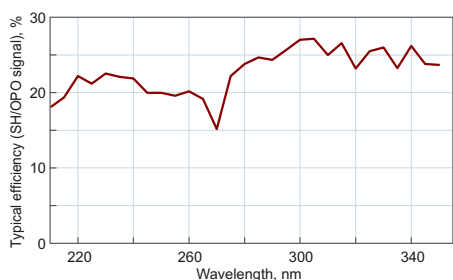
Typical PG122 efficiency



Typical PG121 efficiency



Requests for custom made products are welcome.



Typical PG122UV efficiency

RELATED PRODUCTS

NT340 SERIES

NT340 series tunable laser systems comprise a nanosecond OPO and Q-switched pump laser in a single compact housing.

- Wavelength tuning from 210 to 2300 nm
- Output energy up to 30 mJ in VIS
- Less than 5 cm⁻¹ linewidth
- 4–6 ns pulse duration
- 10 or 20 Hz repetition rate

NL300 SERIES

NL300 series Q-switched Nd:YAG lasers are excellent choice for pumping of OPO/OPG:

- Up to 800 mJ pulse energy at 1064 nm
- 3–6 ns pulse duration
- 10 or 20 Hz repetition rate
- Zero warm-up time
- Compact size



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