

HIGH PULSE ENERGY TUNEABLE OPO

LP600 SERIES

The optical scheme of the LP600 series OPO utilises a pair of synchronously turning BBO crystals and a special cavity configuration increasing amplification of the generated radiation. Thanks to these features the LP600 series OPO demonstrate maximum efficiencies even for the models providing low divergence and narrow linewidth.



Thanks to the high conversion efficiency all the specified parameters are realised at relatively low pump radiation intensities which guarantees long-term failure-free operation of all the LP600 models and minimises expenses on their routine maintenance.

The LP600 series OPO ideally suit for applications requiring high pulsed energy in the VIS and NIR spectral region. In case of necessity, the spectral operating range can be easily expanded to the UV with the help of an external second harmonic generator model LG350. This standard module allows to provide continuously tuneable radiation within the range from 210 to 680 nm.

For your convenience the LP600 series OPO can be supplied together with the LQ series pump lasers the parameters of which are specially

optimised for such applications. The pump laser and the OPO are rigidly fixed relative to each other which ensures mobility of the laser system while preserving its modularity.

Upon your request the OPO can be supplemented with a compact spectrometer or wavelength meter to control the current output wavelength and to simplify automation of your measurements.

PC control, compact footprint and modular design of the LP600 series OPO allow to easily integrate them into any complexes or systems especially into systems with space constraints.

FEATURES

- Tuning range of 410...2500 nm
- UV harmonics up to 210 nm
- Output pulse energy up to 150 mJ
- Low divergence < 2 mrad
- Small footprint

APPLICATIONS

- Nonlinear spectroscopy
- Nonlinear optics
- Photoacoustic imaging
- LIDAR
- Laser induced fluorescence
- Mass spectrometry
- Raman spectroscopy
- Time resolved spectroscopy

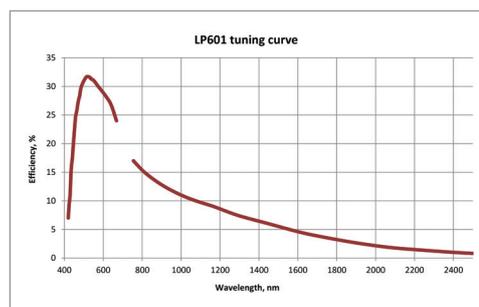
SPECIFICATIONS *

| Model | | LP601 | LP603 | LP604 |
|-------------------------------------------|-------------------------------|------------------------|----------------|-------------|
| Tuning range, nm | signal | 410...680 | 410...710 | 680...1064 |
| | idler | 730...2500 | 710...2500 | 1064...2500 |
| | second harmonic ¹⁾ | - | 210...420 | 340...680 |
| Output pulse energy, mJ ²⁾ | signal | 100 | 70 | 150 |
| | idler | 50 | 30 | 70 |
| | second harmonic ¹⁾ | - | 10 | 25 |
| Divergence, mrad ³⁾ | | < 10 | < 2 | < 2 |
| Linewidth, cm ⁻¹ ⁴⁾ | | 10...100 | 4...6 | 6...8 |
| Dimensions (LxWxH), mm: | | 303 x 206 x 75 | 343 x 206 x 75 | |
| Pump laser requirements | | | | |
| Pump wavelength, nm | | 355 | 355 | 532 |
| Max pump pulse energy, mJ | | 350 | 350 | 500 |
| Pulse width, ns | | 4...12 | | |
| Beam quality | | MM, without "hot" spot | | |
| Divergence, mrad | | < 1.5 | | |

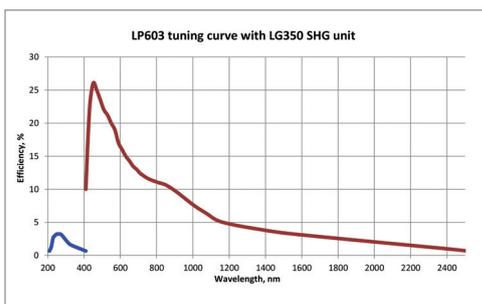
* Specifications are subject to change without notice.
 1) With external LG350 SHG unit.
 2) At tuning curve maximum when pumped by the LQ929B laser.
 3) For signal wave.
 4) Depends on output wavelength.

OPTIONS

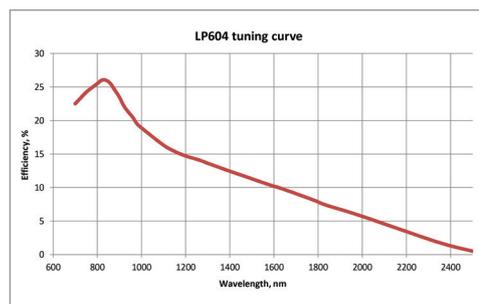
- External wavelength meter
- Optical fiber coupling
- PC control



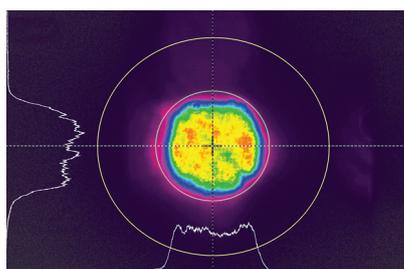
The LP601 typical efficiency curve.



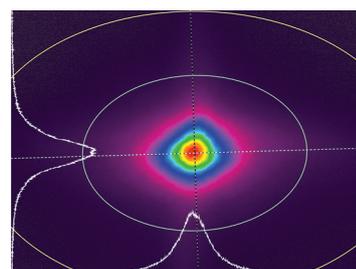
The LP603 typical efficiency curve.



The LP604 typical efficiency curve.



The LP603 typical near-field beam profile.



The LP603 typical far-field beam profile.