

# OPO

# SYSTEMS



New SOLAR LS OPO systems combine high energy output, extremely wide tuning range with exceptionally easy maintenance and increased reliability.

The OPO systems are developed taking into consideration the end user's demands. They are highly reliable and easy to operate unlike similar devices already existing in the market. The main advantage of the OPO LP series is extremely low operating pump power densities. Due to the original optical scheme the specified parameters are obtained even at low pump intensities and as a result neither crystals nor other optics can be damaged. This feature combined with high-precision optics mounts and dust-protective housing insures perfect reliability and long-term output stability.

The OPO LP series optical design provides high-efficiency output even if pumped by standard multimode Nd:YAG lasers. The customer does not have to buy or use complex and expensive TEM<sub>00</sub> or single-frequency pump lasers. The maintenance expenses are therefore reduced and the OPO LP series is attractive for every user. Besides the OPO supercompactness saves space at your optical table and allows to integrate it easily into any available laser system.

- High efficiency
- UV SHG options
- Compatibility with MM pump lasers
- 210...2500 nm operation range
- Custom solutions up to 20  $\mu\text{m}$
- PC control option
- Wavelength display option
- Easy to use and low maintenance

ISO 9001 certified



## SPECIFICATIONS

Specifications are subject to change without notice

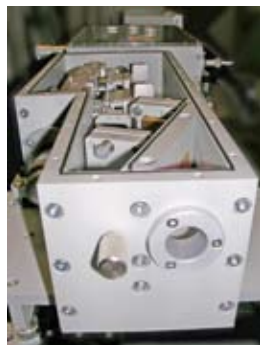
MODEL	LP601	LP603	LP604
Non-linear crystal	BBO		
Tuning range, nm signal + idler second harmonic	410...2500 —	410...2500 210...420	680...2500 —
Max total conversion efficiency <sup>1)</sup>	40% <sup>2)</sup>	35% <sup>2)</sup>	40% <sup>3)</sup>
Linewidth <sup>1)</sup> , cm <sup>-1</sup>	10...100	4...6	6...8
Dimensions, mm	255 x 155 x 70		
<b>Pump laser requirements</b>			
Laser type	Nd:YAG		
Wavelength, nm	355	355	532
Max pump energy, mJ <sup>4)</sup>	100	100	150
Operating pump intensity, MW/cm <sup>2</sup>	<b>60</b>	<b>60</b>	<b>80</b>
Pulse width, nsec	4...12		
Beam quality	<i>multimode</i> homogeneous spatial beam profile		
Beam divergence, mrad	1.0...1.5		

- 1) Depends on output wavelength; specified for 10 nsec pump pulse
- 2) At 500 nm
- 3) At 850 nm
- 4) Higher pump energies are possible if required

The stand-alone SHG unit for OPO provides high conversion efficiency to UV radiation



## CUSTOM OPO SYSTEMS



SOLAR Laser Systems has great experience in development, manufacturing and supply of specialized custom tunable OPO systems based on OPO, SFG and DFG technologies.

While developing custom systems, SOLAR LS specialists take into consideration specific customers' requirements and provide users with optimal cost and time-effective solutions of the challenges they face.

The widest choice of non-linear crystals used in SOLAR LS's devices – BBO, LBO, c-LBO, KTP, KTA, LiNbO<sub>3</sub>, KNbO<sub>3</sub>, AgGaSe<sub>2</sub>, CdSe – ensures high laser performance within the wavelength range of 190nm...20µm.

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