

# NL300

## SERIES

### COMPACT Nanosecond Q-switched Nd:YAG Lasers

#### FEATURES

- Up to 800 mJ pulse energy
- **Excellent** pulse energy stability
- 10 or 20 Hz repetition rate
- **Rugged** sealed laser cavity
- Thermo stabilized **harmonics** options
- **Compact** size
- **Remote** control via **keypad**
- Processor control using RS232 and **LabView** drivers
- **Water-to-air** cooling option

#### APPLICATIONS

- Material processing
- OPO, Ti:Sapphire, dye laser pumping
- Plasma studies
- Laser spectroscopies
- Remote sensing
- Your application is welcome...



NL300 series electro-optically Q-switched Nd:YAG lasers provide up to 800 mJ per pulse with excellent stability. This laser can be operated from a standard outlet and with water-air heat exchanger eliminating the need for external cooling water. The

(FH) harmonic generator modules are designed for easy attachment and removal. The power supply and cooling unit is also compact and easily fits under tables.

For customer convenience the laser is controlled through its RS232 type



NL300 series lasers are an excellent choice for many applications, including laser ablation and marking, OPO pumping and other critical tasks. The compact laser head measures only 48 cm (less than 20 inches), enabling it to fit into tight spaces. The optional second (SH), third (TH) and fourth

PC interface with LabView drivers (included) or a user-friendly remote control pad. Both options enable easy control of laser settings. In addition, the very low jitter of the optical pulse with respect to the sync pulse allows reliable synchronization of the laser with external equipment.

## SPECIFICATIONS

MODEL	NL301HT	NL303HT	NL301G	NL303G
Max. pulse energy, mJ:				
at 1064 nm	400	800/700 <sup>1)</sup>	240	500
at 532 nm	180	360/310 <sup>1)</sup>	100	210
at 355 nm	120	240/210 <sup>1)</sup>	70	135
at 266 nm	40/30 <sup>1)</sup>	80/60 <sup>1)</sup>	25/20 <sup>1)</sup>	50/35 <sup>1)</sup>
Pulse energy stability, %				
at 1064 nm			1	
at 532 nm			1.5	
at 355 nm			3	
at 266 nm			3.5	
Long term energy drift, % <sup>2)</sup>			1.6	
Pulse duration, ns <sup>3)</sup>			3–6	
Max. repetition rate, Hz			10/20	
Polarization at 1064 nm			vertical, > 90 %	
Optical pulse jitter, ns <sup>4)</sup>			0.5	
Linewidth at 1064 nm, cm <sup>-1</sup>			< 1	
Beam profile	"Hat-Top" in near and near Gaussian in far fields <sup>5)</sup>			
Beam diameter, mm	~ 6	~ 8	~ 6	~ 8
Beam divergence, mrad <sup>6)</sup>			< 0.5	
Beam pointing stability at 1064 nm, $\mu$ rad			$\pm$ 50	
Beam height, mm			45	

## PHYSICAL CHARACTERISTICS

Laser head size (W×H×L), mm	110×120×480	125×130×480	110×120×480	125×130×480
Power supply/cooling cabinet size (W×H×L), mm			330×670×520 <sup>7)</sup>	
Second, third, or fourth harmonic unit (W×H×L), mm			110×120×190	
Second and third harmonic unit (W×H×L), mm			110×120×250	
Second and fourth harmonic unit (W×H×L), mm			110×120×250	
Umbilical length, m			2.5	

## OPERATING REQUIREMENTS

Water consumption (max 20 °C), l/min	< 10
Room temperature, °C	15–30
Relative humidity (noncondensing), %	20–80
Voltage	208–240 VAC, single phase 50/60 Hz
Power, kVA	2.5

<sup>1)</sup> 20 Hz versions.<sup>2)</sup> StDev, 8 hours after 5 seconds of warm-up time.<sup>3)</sup> At 1064 nm, FWHM.<sup>4)</sup> With respect to syncpulse, StDev.<sup>5)</sup> "G" versions are ideal for OPO pumping.

The lasers have underfilled laser rods, therefore their beam profiles are smoother if compared with "HT" versions.

<sup>6)</sup> Full angle at 1/e<sup>2</sup>.<sup>7)</sup> 550×530×590 mm for 20 Hz version of NL303G and NL303HT.

Specifications

are subject to changes without advance notice.

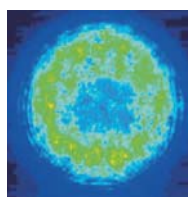
## Beam profiles of the NL300 series lasers

The **NL300G** series lasers are excellent for pumping OPOs and other critical set-ups.

The **NL300HT** series lasers are preferable for most applications, including laser ablation and marking.



Beam profile of NL300G series laser



## RELATED PRODUCTS

## PG100 SERIES OPG

Combined together with **NL300** series laser comprise a tunable wavelength system.

- Tunable within 210–2300 nm
- Up to 35% total conversion efficiency

## NT340 SERIES

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

- Continuous wavelength tuning from 210 to 2300 nm
- Output energy up to 30 mJ in VIS

Requests for custom made products are welcome!

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