

NL310

SERIES

HIGH ENERGY Nanosecond Q-switched Nd:YAG Lasers

FEATURES

- Up to **1.6 J** output energy
- **Excellent** pulse energy stability
- **10** or **20 Hz** repetition rate
- Thermo stabilized **harmonics** as standard option
- Virtually **zero warm-up time**
- **Remote** control via **keypad**
- **PC** control using RS232 and **LabView** drivers
- **Low jitter** internal/external synchronization
- **Robust** and **stable** laser head

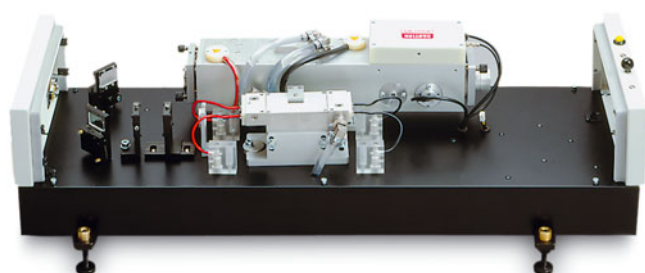
APPLICATIONS

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



High energy nanosecond pulses, excellent beam quality and 1% pulse energy stability makes these nanosecond q-switched Nd:YAG lasers an excellent choice for pumping dye, Ti:Sapphire lasers and OPOs. In addition,

friendly remote control pad. Both options allow easy control of laser settings. Compact size enables the system to fit into tight spaces freeing the experiment area for other instruments. The power supply and cooling unit easily



extremely low jitter of the optical pulse with respect to the sync pulse allows reliable synchronization of the laser with external equipment.

For customer convenience the NL310 series nanosecond q-switched laser is controlled either through its RS232 type PC interface with LabView™ drivers (included) or through a user-

friendly remote control pad. Both options allow easy control of laser settings. Compact size enables the system to fit into tight spaces freeing the experiment area for other instruments. The power supply and cooling unit easily fits under optical tables. The optional second (SH) (for 532 nm), third (TH) (for 355 nm) and fourth (FH) (for 266 nm) harmonic generator modules are designed for easy insertion and removal.

Simple and proven design ensures easy maintenance and long-term stability of laser operation.

SPECIFICATIONS

MODEL	NL311	NL313
Max. pulse energy, mJ:		
at 1064 nm	1300/1000 ¹⁾	1600
at 532 nm	600/440 ¹⁾	800
at 355 nm	390/290 ¹⁾	490
at 266 nm	130/120 ¹⁾	180
Pulse energy stability, % ²⁾		1.0
Long term energy drift, % ³⁾		1.6
Pulse duration, ns ⁴⁾		3–6
Max. repetition rate, Hz	10/20	10
Polarization at 1064 nm		vertical, > 85 %
Optical pulse jitter, ns ⁵⁾		0.5
Linewidth at 1064 nm, cm ⁻¹		< 1
Beam profile		
Near field		"Hat-Top"
Far field		near Gaussian
Beam diameter, mm	10	12
Beam divergence, mrad ⁶⁾		< 0.5
Beam pointing stability at 1064 nm, μ rad		\pm 50
Beam height, mm		145–165
PHYSICAL CHARACTERISTICS		
Laser head size (W×H×L), mm		310×190×775
Powering/cooling cabinet size (W×H×L), mm		550×530×590
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 ⁷⁾		208–240 VAC, single phase 50/60 Hz
Power, kVA		< 3.5

¹⁾ 20 Hz versions.

²⁾ At 1064 nm, StDev, after 2 minutes of warm-up time.

³⁾ StDev, within 8 hours after 2 minutes of warm-up time.

⁴⁾ At 1064 nm, FWHM.

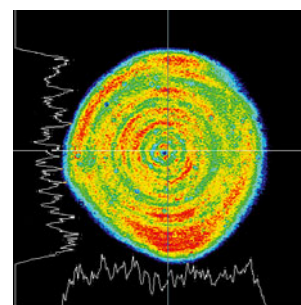
⁵⁾ With respect to syncpulse, StDev.

⁶⁾ Full angle at 1/e².

⁷⁾ 20 Hz version of NL311

requires 3 phase, when the voltage is 208 VAC.

Typical beam profile of the NL310 series lasers



Near field

Specifications are subject to changes without advance notice.

RELATED PRODUCTS

NL300 SERIES

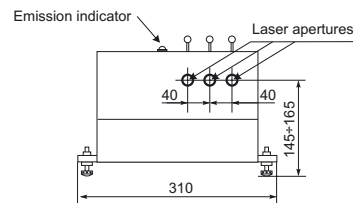
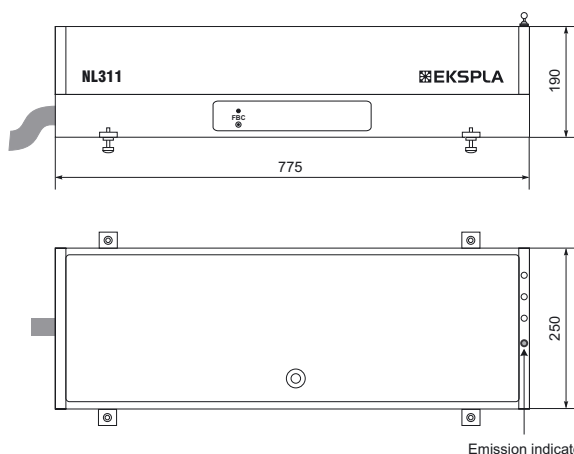
Q-switched nanosecond Nd:YAG lasers

- Up to 800 mJ pulse energy
- 10 or 20 Hz repetition rate
- Compact size

NT340 SERIES

nanosecond tunable laser system

- Integrated OPO and Q-switched laser
- No gap hands free tuning from 210 to 2300 nm
- Output energy:
 - up to 5 mJ in UV
 - up to 50 mJ in VIS
- 3–5 ns pulse duration



NL310 series lasers head outline drawing

Requests for custom made products are welcome !



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