

# NL200

## SERIES

## Nanosecond Q-switched Diode Pumped Laser

### FEATURES

- Up to 4 mJ pulse energy at 1064 nm
- Up to 2500 Hz variable repetition rate
- 532 nm, 355 nm, 266 nm, 213 nm wavelengths as standard options
- ~ 6.5 ns pulse duration at 1064 nm
- Electro-optical Q-switching
- Turn-key operation
- Sealed cavity
- Extremely compact size
- Simple and robust
- Air cooled
- External TTL triggering
- Remote control via USB/CAN
- Remote control pad

### APPLICATIONS

- Spectroscopy
- OPO pumping
- Remote sensing
- Material processing
- Marking
- Micromachining
- Engraving
- Laser deposition
- Laser cleaning
- Ablation
- Your application is welcome...



NL200 series DPSS Q-switched nanosecond lasers offer high pulse energy at kHz repetition rates. End-pumped design makes this laser compact and easy to integrate. Harmonic generation modules for

excellent cost effective sources for specific applications like pulsed laser deposition, ablation through mask or intravolume marking of transparent materials, when higher pulse energy is required. Excellent energy stability

NL204 laser with attached harmonic module



NL204 laser

532 nm, 355 nm and 266 nm wavelengths can be combined into one module, easily attached to the laser frame.

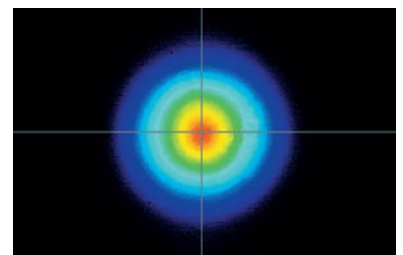
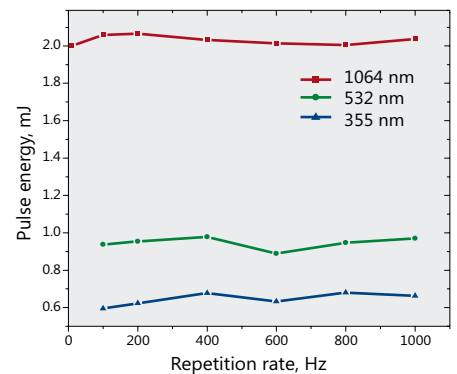
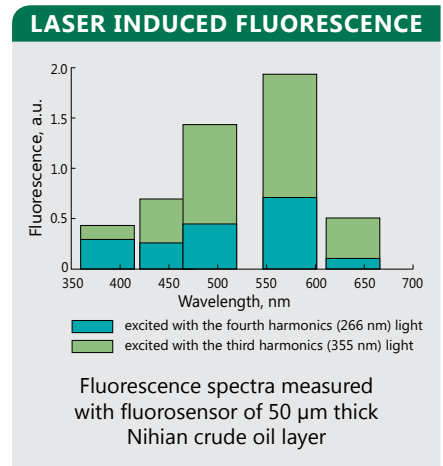
Featuring short pulse duration, variable repetition rate and external TTL triggering, nanosecond diode pumped NL200 series Q-switched lasers are

and a wide range of wavelength options makes this laser a perfect tool for spectroscopy and remote sensing applications.

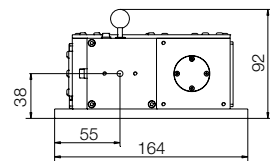
Mechanically stable and hermetically sealed design ensures reliable operation and long lifetime of laser components.

# SPECIFICATIONS <sup>1)</sup>

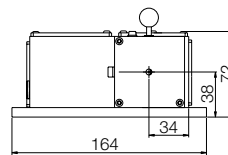
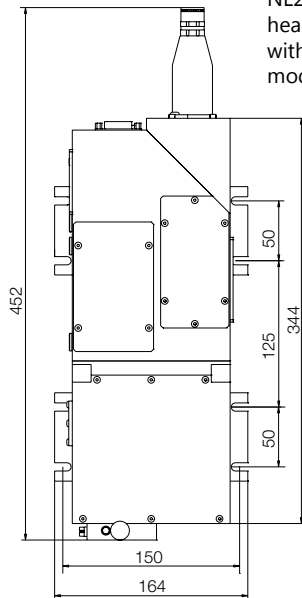
MODEL	NL201 <sup>2)</sup>	NL202 <sup>3)</sup>	NL204 <sup>4)</sup>
<b>Pulse energy, mJ</b>			
at 1064 nm	0.9	1.9	4.0
at 532 nm	0.3	0.9	2.0
at 355 nm	0.2	0.6	1.5
at 266 nm	0.08	0.2	0.7
at 213 nm	0.04	0.1	0.3
Typical pulse duration, ns <sup>5)</sup>	< 7	< 9	< 7
Pulse to pulse energy stability, Std. dev., % <sup>6)</sup>	< 0.5		
Power drift, % <sup>7)</sup>	± 2		
Pulse repetition rate, Hz <sup>8)</sup>	Single shot – 2500	Single shot – 1000	Single shot – 500
Beam profile	TEM <sub>00</sub>		
Elipticity	0.9 at 1064 nm		
M <sup>2</sup>	< 1.3		
Beam divergence, mrad <sup>9)</sup>	< 3		
Polarization	Linear, 1064 nm, 355 nm, 266 nm – horizontal, >100:1		
Typical beam diameter, mm <sup>10)</sup>	0.6	0.7	0.7
Optical jitter, Std. dev, ns <sup>11)</sup>	0.4		
<b>PHYSICAL CHARACTERISTICS</b>			
Laser head (W×L×H), mm <sup>12)</sup>	164×320×93		
Power supply unit (W×L×H), mm	340×365×290		
<b>OPERATING REQUIREMENTS</b>			
Water service	Not required, air cooled		
Ambient temperature, °C	18-30		
Relative humidity (non-condensing), %	10-80		
Voltage	90-240 VAC, single phase, 47-63 Hz		
Power consumption, W	< 200		



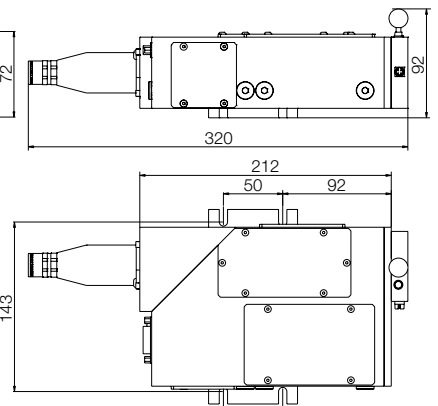
- <sup>1)</sup> All specifications are subject to change without notice. Parameters marked typical are not specifications. They are indications of typical performance and will vary with each unit we manufacture. Unless stated otherwise all specifications are measured at 1064 nm.
- <sup>2)</sup> Unless stated otherwise all specifications are measured at 2500 Hz pulse repetition rate.
- <sup>3)</sup> Unless stated otherwise all specifications are measured at 1000 Hz pulse repetition rate.
- <sup>4)</sup> Unless stated otherwise all specifications are measured at 500 Hz pulse repetition rate.
- <sup>5)</sup> FWHM at 1064 nm.
- <sup>6)</sup> Averaged from 300 pulses at 1064nm.
- <sup>7)</sup> Over 8 hour period when ambient temperature variation is less than ±2 °C.
- <sup>8)</sup> In external triggering mode. In internal triggering mode lowest repetition rate is 10 Hz.
- <sup>9)</sup> Full angle measured at the 1/e<sup>2</sup> point at 1064 nm.
- <sup>10)</sup> Beam diameter is measured at 1064 nm at the 1/e<sup>2</sup> point.
- <sup>11)</sup> With respect to Q-switch trigger pulse.
- <sup>12)</sup> Without optional harmonics module.



NL20X laser head drawing with harmonic module



NL201 laser head drawing



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