

NT235 SERIES



NT235 series lasers produce high up to 15 mJ energy pulses at 100 Hz pulse repetition rate, tunable over a broad spectral range. Integrated into a single compact and robust housing, the diode pumped only Q-switched Nd:YAG laser and OPO offers hands-free, tuning from 335 to 2600 nm. With its 100 Hz repetition rate, the NT235 series laser establishes itself as a versatile tool for many laboratory applications, including photo acoustic imaging, laser induced fluorescence, flash photolysis, photobiology, metrology, etc.

Diode-pumped design, gives maintenance-free laser operation for an extended period of time and improved stability (compared with flash-lamp pumped counterparts). It is cooled by a build-in chiller, which further reduces running costs. OPO pump energy monitor allows monitoring of pump laser performance without the use of external power meters.

NT235 series systems controlled from a user-friendly remote control pad or/and a computer. The control pad allows easy control of all parameters and features on a backlit display that is easy to read even with laser safety eyewear.

Tunable Wavelength NIR Range DPSS Laser

FEATURES

- ▶ *Integrated DPSS pump laser and OPO into a single housing*
- ▶ *Hands-free wavelength tuning from 335 to 2600 nm*
- ▶ *High, up to **15 mJ** pulse energy from OPO*
- ▶ ***100 Hz** pulse repetition rate*
- ▶ *More than **3 mJ** output pulse energy in UV*
- ▶ *Less than 10 cm^{-1} linewidth*
- ▶ *3–6 ns pulse duration*
- ▶ *Remote control pad*
- ▶ *PC control via USB port and LabVIEW™ drivers*
- ▶ *Compact and robust design*

APPLICATIONS

- ▶ *Laser-induced fluorescence*
- ▶ *Flash photolysis*
- ▶ *Photobiology*
- ▶ *Photo acoustic imaging*
- ▶ *Metrology*

SPECIFICATIONS ¹⁾

Model		NT235-SH
OPO		
Wavelength range		
Signal		670–1063 nm
Idler		1064–2600 nm
SH		335–532 nm ²⁾
Pulse energy ³⁾		
OPO		15 mJ
SH		3 mJ at 400 nm
Pulse repetition rate ⁴⁾		
		100 Hz
Pulse duration ⁵⁾		
		3–6 ns
Linewidth		
		<10 cm ⁻¹
Scanning step		
Signal		0.1 nm
Idler		1 nm
SH		0.05 nm
Polarization		
Signal		horizontal
Idler		vertical
SH		horizontal
OPO beam divergence		
		<2.5 mrad ⁶⁾
Typical beam diameter		
		4 mm ⁷⁾
PUMP LASER		
Pump wavelength		
		532 nm
Max pump pulse energy		
		50 mJ ⁸⁾
Pulse duration		
		5–7 ns at 1064 nm
PHYSICAL CHARACTERISTICS		
Unit size (W × L × H)		
		360 × 450 × 150 mm
Power supply size (W × L × H)		
		471 × 391 × 147 mm
Umbilical length		
		2.5 m
OPERATING REQUIREMENTS		
Cooling		
		built-in chiller
Room temperature		
		18–27 °C
Relative humidity		
		20–80 % (non-condensing)
Power requirements		
		90–240 V AC, single phase 50/60 Hz
Power consumption		
		< 1 kVA

¹⁾ Due to continuous improvements all specifications are subject to change. 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 800 nm.
²⁾ Tuning range of 335–532 nm is provided by SH option.
³⁾ See tuning curves for typical outputs at other wavelengths.
⁴⁾ Inquire for other pulse repetition rates.

⁵⁾ FWHM measured with photodiode featuring 1 ns rise time and 300 MHz bandwidth oscilloscope.
⁶⁾ Full angle measured at FWHM level 800 nm.
⁷⁾ Beam diameter is measured at 800 nm at the FWHM level and can vary depending on the pump pulse energy.
⁸⁾ The laser max pulse energy will be optimized for best OPO performance. The actual pump laser output can vary with each unit we deliver.



ACCESSORIES AND OPTIONAL ITEMS

- Optional items and accessories allows the laser to be configured for any application:
- ▶ Tuning range extension in UV range (335–531 nm) by second harmonics generation
- ▶ Fiber coupled output in 350–2000 nm range (please inquire for precise fiber coupler selection)
- ▶ Attenuator option for 670–2600 nm range.

PERFORMANCE

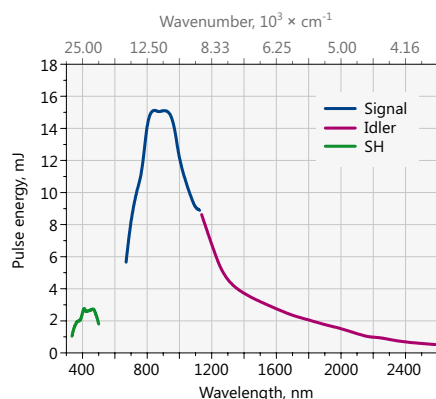


Fig 1. Typical output energy from NT235-100 series tunable wavelength system

OUTLINE DRAWINGS

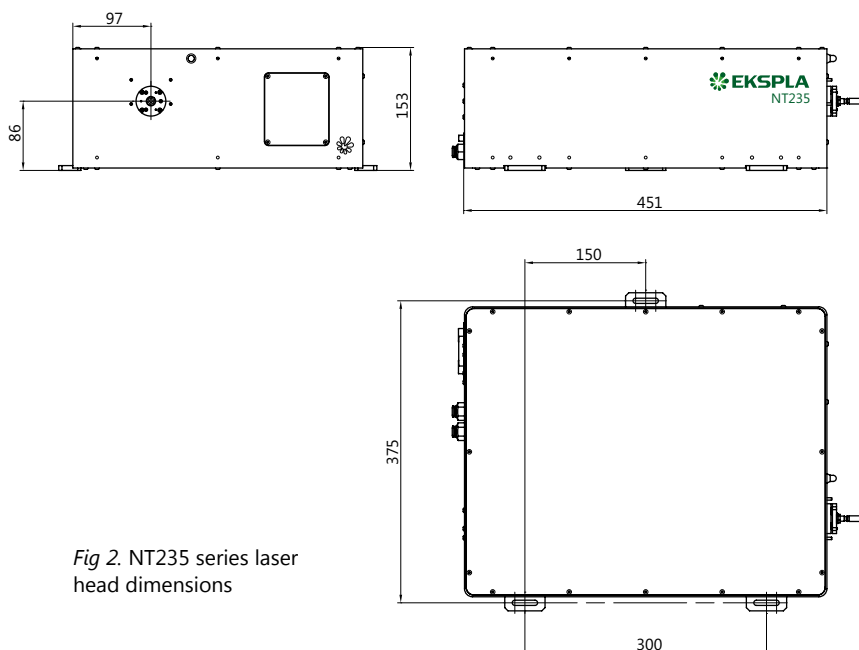


Fig 2. NT235 series laser head dimensions