

NT252 SERIES



NT252 series tunable laser systems integrates into a single compact housing a nanosecond Optical Parametric Oscillator (OPO) and Diode-Pumped Solid-State (DPSS) Q-switched pump laser.

Diode pumping enables fast data acquisition at high pulse repetition rates up to 1 kHz while avoiding frequent flashlamp changes that are common when flashlamp pumped lasers are used. Built-in chiller eliminates the need for tap water for cooling, thus further reducing running and maintenance costs.

All lasers feature motorized tuning across the specified tuning range. The output wavelength can be set from control pad with backlit display that is easy to read even while wearing laser safety glasses. Alternatively, the laser can be controlled also from personal computer through USB (RS-232 is optional) interface using supplied LabVIEW™ drivers.

High conversion efficiency, stable output, easy maintenance and compact size make our systems excellent choice for many applications.

Tunable Wavelength UV-NIR Range DPSS Lasers

FEATURES

- ▶ Integrates DPSS pump laser and OPO into single housing
- ▶ Separate output ports for the pump laser and OPO beams
- ▶ OPO output wavelength range from 335 nm to 2600 nm
- ▶ Narrow linewidth
- ▶ Hands-free tuning
- ▶ 3 – 6 ns pulse duration
- ▶ Remote control pad
- ▶ PC control via USB (RS-232 is optional) and LabVIEW™ drivers

APPLICATIONS

- ▶ Photoacoustic imaging
- ▶ Laser-induced fluorescence
- ▶ Photolysis
- ▶ Photobiology
- ▶ Remote sensing
- ▶ Metrology

Accessories and Optional Items

Option	Features
-SH	Tuning range extension in UV range (335 – 670 nm) by second harmonic generation
-H, -2H	1064 and 532 nm output via separate port
-FC	Fiber coupler
-Attn	Attenuator option

SPECIFICATIONS ¹⁾

Model		NT252
OPO		
Wavelength range		
Signal		670–1063 nm
Idler		1064–2600 nm
SH		335–670 nm
Pulse energy ²⁾		
OPO		900 μJ at 800 nm
SH		180 μJ at 400 nm
Pulse repetition rate		1000 Hz
Linewidth ³⁾		<8 cm ⁻¹
Tuning resolution ⁴⁾		
Signal		1 cm ⁻¹
Idler		1 cm ⁻¹
SH		2 cm ⁻¹
Polarization		
Signal		horizontal
Idler		vertical
SH		horizontal
Typical beam diameter ^{5) 6)}		3 × 6 mm
PUMP LASER		
Pump wavelength ⁷⁾		532 nm
Max pump pulse energy ⁸⁾		4 mJ
Pulse duration ⁹⁾		4 – 6 ns
Pulse energy stability (StdDev)		<2.5 %
PHYSICAL CHARACTERISTICS		
Unit size (W × L × H)		456 × 1030 × 274 mm
Power supply size (W × L × H)		520 × 400 × 300 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

¹⁾ Due to continuous improvement, all specifications are subject to change. Parameters marked typical are illustrative; they are indications of typical performance and will vary with each unit we manufacture. Unless stated otherwise, all specifications are measured at 800 nm and for basic system without options.

²⁾ Please refer to tuning curves for typical outputs at other wavelengths.

³⁾ In signal and idler range.

⁴⁾ For manual input from PC. When wavelength is controlled from keypad, tuning resolution is 0.1 nm for signal, 1 nm for idler and 0.05 nm for SH.

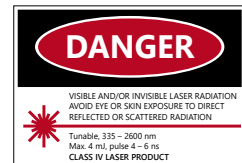
⁵⁾ Measured at the wavelength indicated in the "Pulse energy" specification row.

⁶⁾ Beam diameter is measured at the 1/e² level at the laser output and can vary depending on the pump pulse energy.

⁷⁾ Separate output port for the 2nd and other harmonic are optional.

⁸⁾ The laser max pulse energy will be optimized for best OPO performance. The actual pump laser output can vary with each unit we manufacture.

⁹⁾ Measured at FWHM level with photodiode featuring 1 ns rise time and 300 MHz bandwidth oscilloscope.



PERFORMANCE

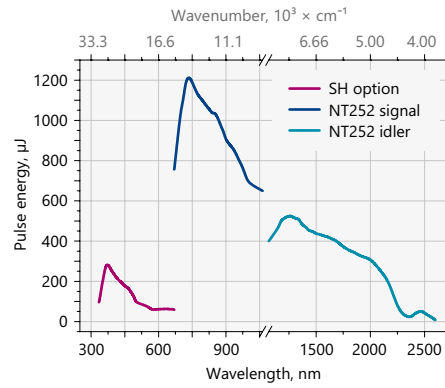


Fig 1. Typical output pulse energy of the NT252-SH tunable laser

OUTLINE DRAWINGS

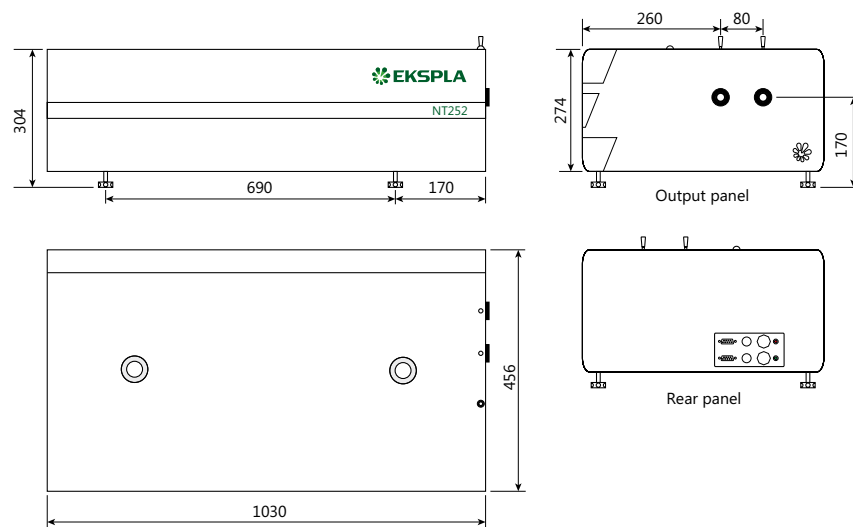


Fig 3. NT252 series laser head dimensions

ORDERING INFORMATION

Note: Laser must be connected to the mains electricity all the time. If there will be no mains electricity for longer than 1 hour then laser (system) needs warm up for a few hours before switching on.

