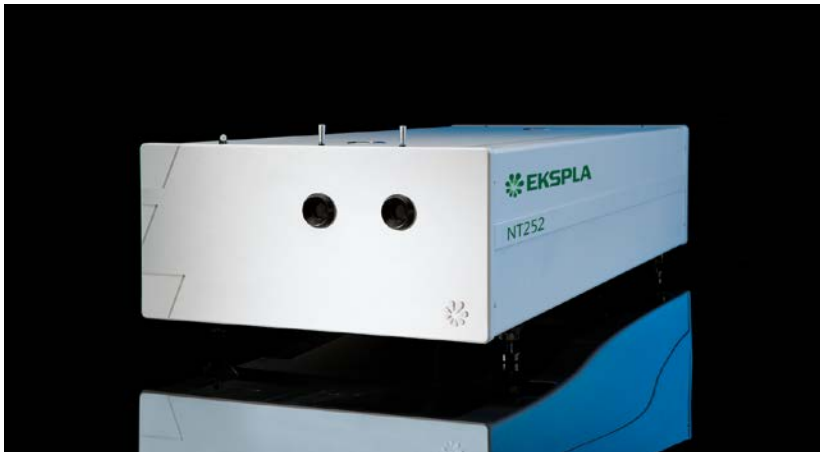
NT252 SERIES

Tunable Wavelength UV-NIR Range DPSS Lasers



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.

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 LabVIEM™ 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

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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.

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

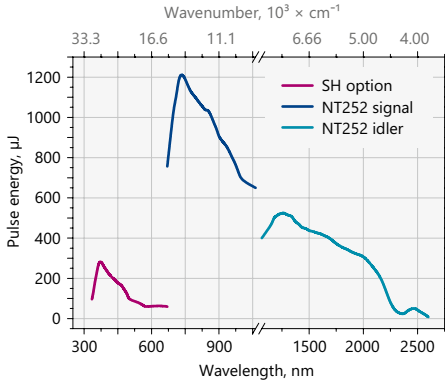

Fig 1. Typical output pulse energy of the NT252-SH tunable laser

OUTLINE DRAWINGS

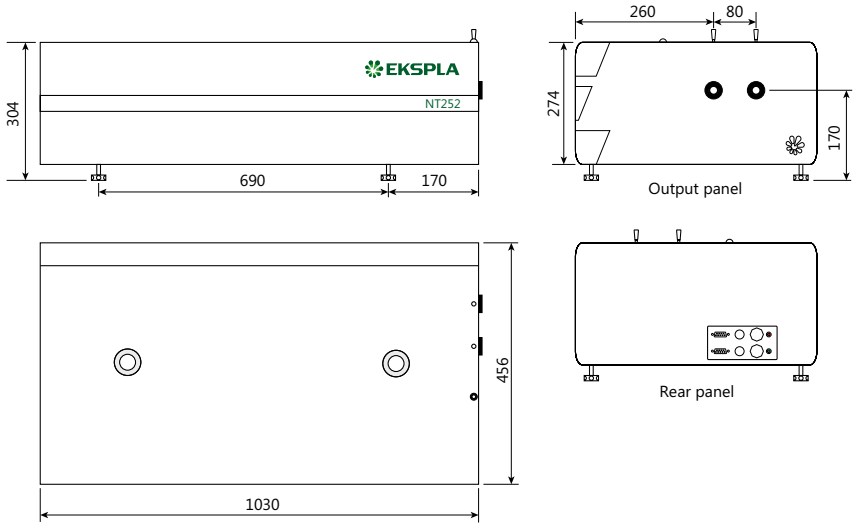

Fig 3. NT252 series laser head dimensions

ORDERING INFORMATION

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

NT252-SH-2H

Model

Optional tuning range extension:
SH → 335–670 nm

Options:
2H → extra 532 nm output
H → extra 1064 nm output

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