

NT350

SERIES

Tunable Wavelength Nanosecond Lasers



NT350 series tunable laser seamlessly integrates in a compact housing a nanosecond optical parametric oscillator and Nd:YAG Q-switched laser.

Three models with different output pulse energy values are offered. The most powerful model has more than 100 mJ pulse energy at 800 nm.

Because of the narrow linewidth of output radiation ($<10 \text{ cm}^{-1}$) that is nearly constant throughout the entire tuning range, the laser is suitable for many laser spectroscopy applications.

The device is controlled from a remote keypad or a PC via RS232 interface using LabVIEW™ drivers that are supplied with the system. The remote pad features a backlit display that is easy to read even when wearing laser safety glasses.

The system is designed for easy and cost-effective maintenance. Replacement of flashlamps can be done without misalignment of the laser cavity and deterioration of laser performance. An OPO pump energy monitoring system helps to increase the lifetime of the optical components.

Optional items are available to optimize the laser system for your application, for example:

- Fibre coupled output in 680-1000 nm range
- Tuning range extension up to 2600 nm
- Pulse energy attenuator
- Water-air cooled power supply

Please inquire for custom-built versions and options.

FEATURES

- Hands-free, automated wavelength tuning from 680 to 2600 nm
- Up to 100 mJ pulse energy in near-IR spectral range
- Narrow linewidth across tuning range
- 3–5 ns pulse duration
- 10 or 20 Hz pulse repetition rate
- Remote control pad
- PC control via RS232 and LabVIEW™ drivers
- Separate output port for 532 nm beam. Output for 1064 nm is optional
- OPO pump energy monitoring
- Replacement of flashlamps can be done without misalignment of the laser cavity
- Hermetically sealed oscillator cavity protects non-linear crystals from dust and humidity

APPLICATIONS

- Photoacoustic imaging
- Flash photolysis
- Photobiology
- Remote sensing
- Time-resolved spectroscopy
- Non-linear spectroscopy
- Other laser spectroscopy applications

SPECIFICATIONS ¹⁾

MODEL	NT352	NT352A	NT352B
OPO			
Wavelength range:			
Signal	680–1030 nm		
Idler ²⁾	1090–2300 nm		
OPO output pulse energy ³⁾	30 mJ	60 mJ	100 mJ
Linewidth	< 10 cm ⁻¹		
Scanning step:			
Signal (680-1030 nm)	0.1 nm		
Idler (1090-2300 nm)	1 nm		
Pulse duration ⁴⁾	3-5 ns		
Typical beam diameter ⁵⁾	6 mm	8 mm	10 mm
Typical beam divergence ⁶⁾	10 mrad X-axis 2 mrad Y-axis		
Polarization:			
Signal beam	horizontal		
Idler beam	vertical		
PUMP LASER ⁷⁾			
Pump wavelength	532 nm		
Max pump pulse energy	110 mJ	230 mJ	400 mJ
Beam quality	"Hat-Top" in near and near Gaussian in far fields		
Beam divergence	< 0.5 mrad		
Pulse energy stability (Std. Dev.)	< 2.5 %		
Pulse repetition rate	10 or 20 Hz		10 Hz
PHYSICAL CHARACTERISTICS			
Unit size (W×H×L)	450×270×610 mm		450×270×1020 mm
Power supply size (W×H×L)	330×670×520 mm		550×530×600 mm
Umbilical length	2.5 m		
OPERATING REQUIREMENTS			
Water consumption (max 20 °C) ⁸⁾	6 l/min		10 l/min
Room temperature	15–30 °C		
Relative humidity (noncondensing)	20–80 %		
Mains requirements	208 or 230 VAC, single phase 50/60 Hz		
Power consumption ⁹⁾	1.0/1.5 kVA		2.5 kVA

- ¹⁾ 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 800 nm.
- ²⁾ Tuning range extension to 2600 nm is optional.
- ³⁾ Measured at 800 nm. See tuning curves for typical outputs at other wavelengths.
- ⁴⁾ FWHM measured with photodiode featuring 1 ns rise time and 300 MHz bandwidth oscilloscope.
- ⁵⁾ Beam diameter is measured at 800 nm at the FWHM level and can vary depending on the pump pulse energy.
- ⁶⁾ Full angle measured at the FWHM level at 800 nm.
- ⁷⁾ Separate output port for the 532 nm beam is standard. Output for 1064 nm beam is optional. Pump laser data represents typical values; pump laser output will be optimised for OPO operation and specifications may vary with each unit we manufacture.
- ⁸⁾ Air cooled power supply is available as option.
- ⁹⁾ At 10/20 Hz pulse repetition rate.

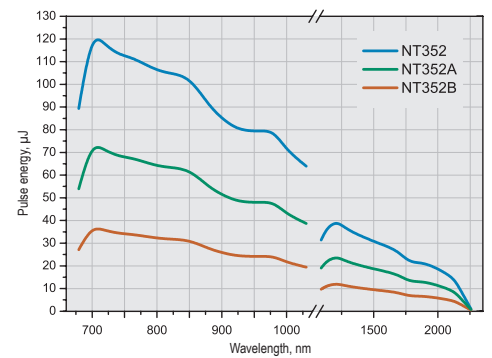


Fig 1. Typical output energy of the NT352 series tunable wavelength systems

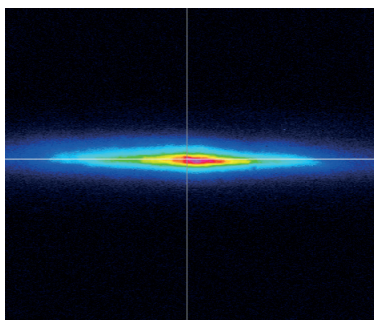


Fig. 2 Typical far field beam profile of NT352A laser at 1000 nm

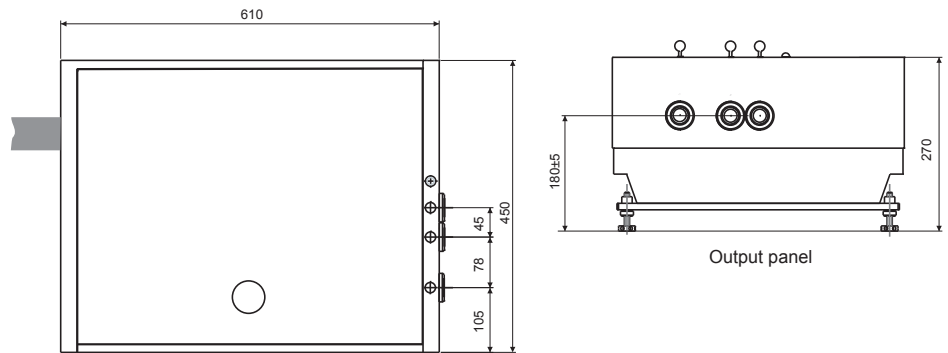


Fig 3. Dimensions of NT352 and NT352A lasers



EKSPLA
 Savanoriu av. 231
 02300 Vilnius
 LITHUANIA

Ph.: +370 5 2649629
 Fax: +370 5 2641809
 sales@ekspla.com
 www.ekspla.com

Find local distributor at
www.ekspla.com

