

## Nd:YAG passively q-switched DPSS lasers "Waveguard"



The typical configuration of these lasers is based on a Nd:YAG crystal placed in a cavity of a few millimeters in length, leading to a very compact laser design with a surprising performance, such as sub-nanosecond pulse widths and a peak power of several tens of kilowatts. State-of-the-art robust laser design allows it to be easily integrated into various laser applications and

setups. Additional harmonics modules for 532 nm, 355 nm, or 266 nm wavelengths are available on request for all models. "Waveguard" series lasers offer wavelength stabilization possibility up to 3 pm and laser modules with a photodiode to control pulse repetition rate are available on request for all models. Optional: adjustable pulse repetition rate.

### Main features

- Robust and compact design
- Internal and external TTL triggering
- Laser controller with USB or RS232 interface
- OEM version available
- Optional: adjustable pulse repetition rate.

### Application examples

- Material processing & micromatching
- LIBS
- Marking
- LIDAR & Laser Ranging
- Biophotonics

### Standard specifications

LASERS "WAVEGUARD" STANDARD SPECIFICATIONS	
Wavelength	1064 nm*
Wavelength tolerance	±1 nm
Repetition rate	1 Hz - 10 kHz
Pulse energy	Up to 400 µJ
Energy stability	<2 %
Polarization contrast	>100:1
Beam diameter at exit window	<1 mm
Beam divergence	<5 mRad
Beam quality	M <sup>2</sup> < 1,5
Beam profile	TEM <sub>00</sub>

\*Custom wavelength available

### Standard products

LASER MODEL	WAVELENGTH	REPETITION RATE	PULSE ENERGY	AVERAGE OUTPUT POWER	PULSE DURATION	BEAM QUALITY
WAVEGUARD-A	1064 nm	10 kHz	10 µJ	100 mW	<1 ns	M <sup>2</sup> < 1,5
WAVEGUARD-D	1064 nm	1 kHz	120 µJ	120 mW	<1 ns	M <sup>2</sup> < 1,5
WAVEGUARD-E	1064 nm	100 Hz	400 µJ	40 mW	<1 ns	M <sup>2</sup> < 1,5
WAVEGUARD-2D	532 nm	1 kHz	50 µJ	50 mW	<1 ns	M <sup>2</sup> < 1,5
WAVEGUARD-2E	532 nm	100 Hz	150 µJ	15 mW	<1 ns	M <sup>2</sup> < 1,5

### Utility requirements

LASERS "WAVEGUARD" UTILITY REQUIREMENTS	
Laser module dimensions	170 x 103 x 64 mm (L x W x H)
Laser driver dimensions	164 x 105 x 44 mm (L x W x H)
Pump current	8-10 A
Electric	100-240 V AC, 50/60 Hz, 1,4 A
Working temperature	20-28 °C
Cooling	TEC element + active air cooling

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