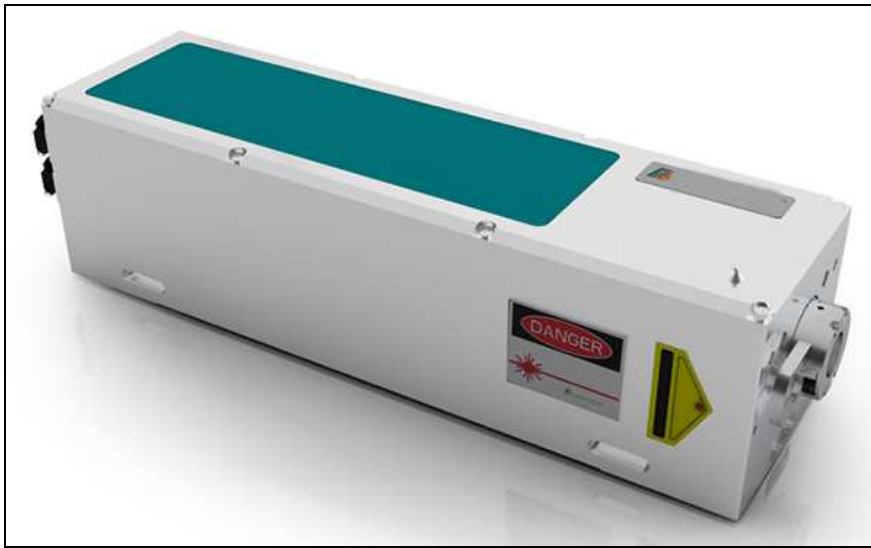


STLB Series EO Q-switched Lasers

1. STLB-DA Series Lamp-pumped EO Q-switched Nd:YAG Lasers

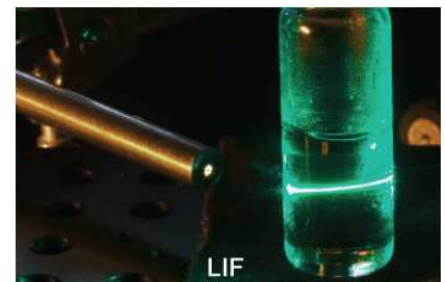
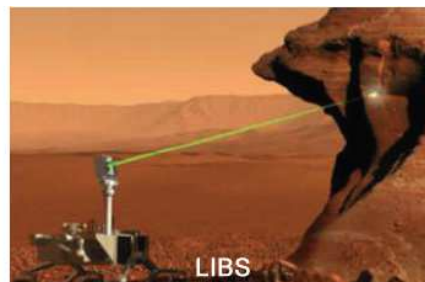


- Fundamental wavelength covers 10-300 mJ output
- Higher harmonics available
- Module design and easy to use
- Industrial design to ensure long term operation
- Humanization design and easy for integration
- Customization version available

STLB-DA series lasers are designed for an industrial level laser that greatly fits OEM system integration. The energy level is relatively low, from 10-300 mJ. The SHG, THG and FHG are available.

The lasers provides both multimode and variable reflectivity mirror (VRM) mode beam with good beam quality. The scientific and industrial design ensures the good beam quality. Features as optical shutter, flow sensor, power supply interlock make sure the safety use as the top priority. The lasers passed CE certification in 2014.

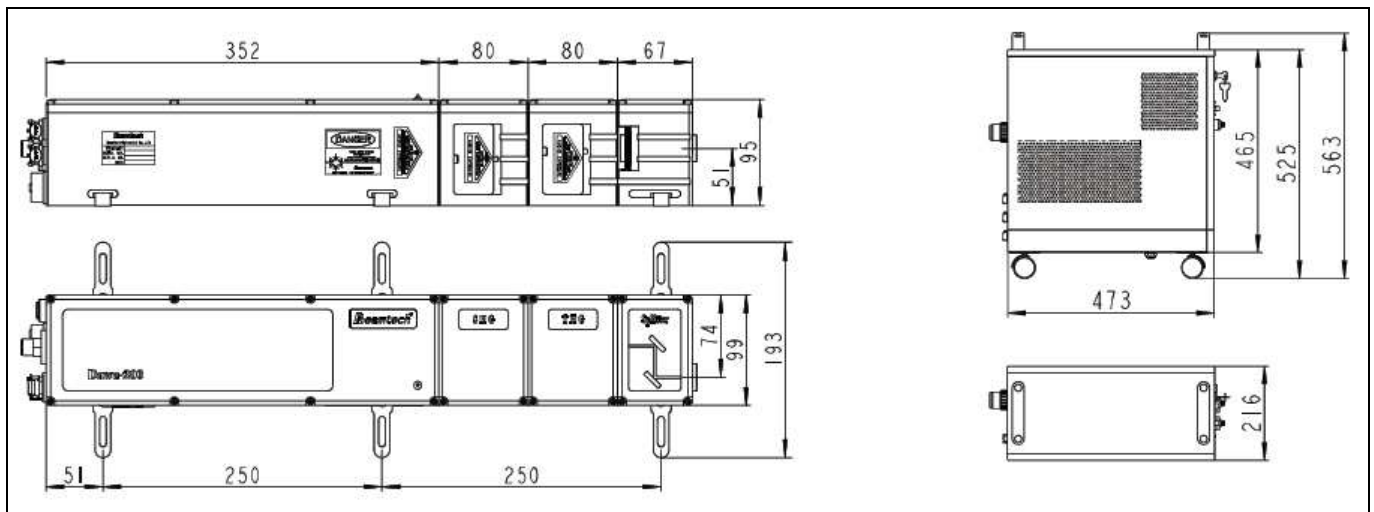
The lasers are suitable for many applications, including LIBS, LIDAR, LIF, PIV, laser ultrasonic, laser spark plug, laser cleaning, LCD repair etc.



Part number		STLB-DA-50-xxxx	STLB-DA-100-xxxx	STLB-DA-200-xxxx	STLB-DA-300-xxxx
Pulse repetition rate (Hz)		1-20	1-20	1-20	1-10
Pulse energy (mJ)	1064nm	50	100	200	300
	532nm	25	50	100	150
	355nm	10	20	40	60
	266nm	5	10	20	30
Energy stability ² RMS	1064nm	≤1%	≤1%	≤1%	≤1%
	532nm	≤2%	≤2%	≤2%	≤2%
	355nm	≤4%	≤4%	≤4%	≤4%
	266nm	≤4%	≤4%	≤4%	≤4%
Pulse width ³ (ns)	1064nm	≤9	≤9	≤8	≤7

	532nm	≤8	≤8	≤7	≤6
	355nm	≤7	≤7	≤6	≤5
	266nm	≤7	≤7	≤6	≤5
Divergence ⁴ (mrad)	1064nm	Multi-mode, <3mrad; Flat-top, <1mrad	Multi-mode, <3mrad; Flat-top, <1mrad	Multi-mode, <3mrad; Flat-top, <1mrad	Multi-mode, <3mrad; Flat-top, <1mrad
Pointing stability (urad)		≤50	≤50	≤50	≤50
Jitter ⁵ (RMS) (ns)		≤1	≤1	≤1	≤1
Beam dia. ⁶ (mm)	1064nm	5	5	6	7
Spatial mode profile	Near field	>70%	>70%	>70%	>70%
	Far field	>95%	>95%	>95%	>95%
Cooling		Air to water	Air to water	Air to water	Air to water
Power input		220VAC/50-60Hz, 10A	220VAC/50-60Hz, 10A	220VAC/50-60Hz, 10A	220VAC/50-60Hz, 10A
Power consumption (W)		500	500	500	500
Cable length (m)	Control	3	3	3	3
	Power	1.8	1.8	1.8	1.8
	Umbilical	3	3	3	3
Operation temp. (°C)		5-30	5-30	5-30	5-30
Storage temp. (°C)		5-50	5-50	5-50	5-50
Dimension ⁷ (mm)	Head	579x193x95	579x193x95	579x193x95	579x193x95
	Power	473x216x563	473x216x563	473x216x563	473x216x563

1. All the specifications unless otherwise stated are for Q-switched 1064nm operation. The xxxx in the part numbers is laser wavelength.
2. Dev to average (shot to shot for 99% of pulses)
3. Full width half max. (FWHM)
4. Full angle at 1/e² of the peak
5. With respect to external trigger
6. Measured at the laser output
7. All the dimensions are the lasers with 3rd harmonic generation (355nm).



2. STLB-LA Series Air-cooled EO Q-switched DPSS Lasers



- Diode pumped with 1 billion shots lifetime
- Air cooling without maintenance
- EOQ switched with accurate timing
- 1064 nm with over 80 mJ energy output
- Higher harmonics available
- Portable design with compact size
- Easy for system integration

STLB-LA series DPSS lasers are with uniform pumping and conduction cooling technologies to realize real portable nanosecond laser source. This series provide the new solution to various scientific, industrial and military applications.

Diode pumping has the features such as low energy consumption, high efficiency and long lifetime. TEC conduction cooling technology is used to avoid any water usage while keeping the operation stability. Electro-optical Q-switched technology is used to provide accurate timing, which is key to analysis instrument.

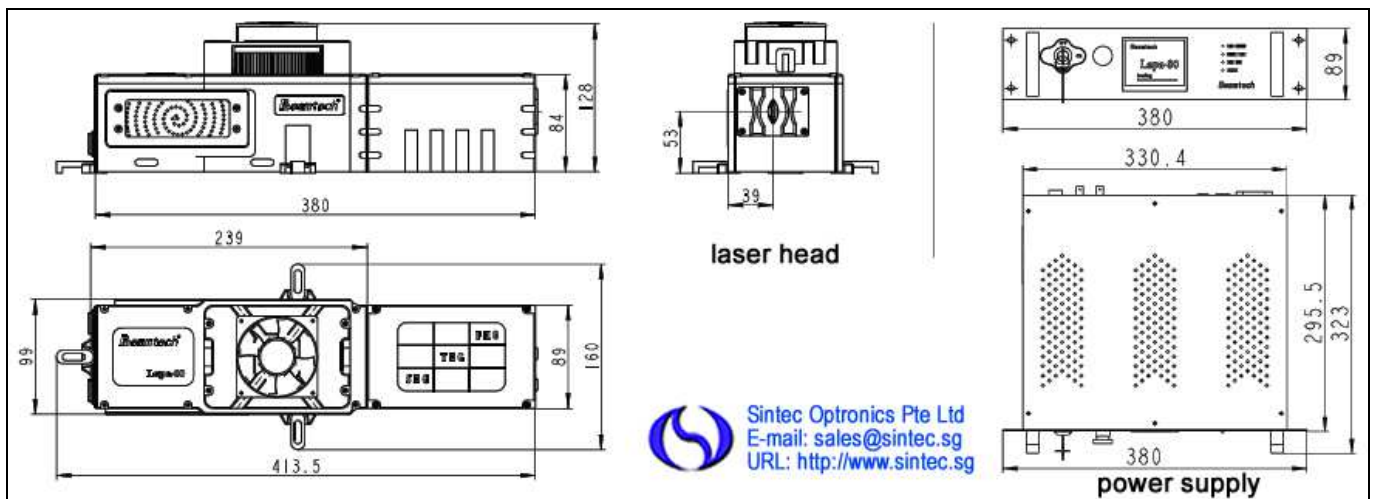
Based on all these features, our lasers are the perfect choice for applications like LIDAR, mass spectroscopy, laser ultrasonic and LIBS.



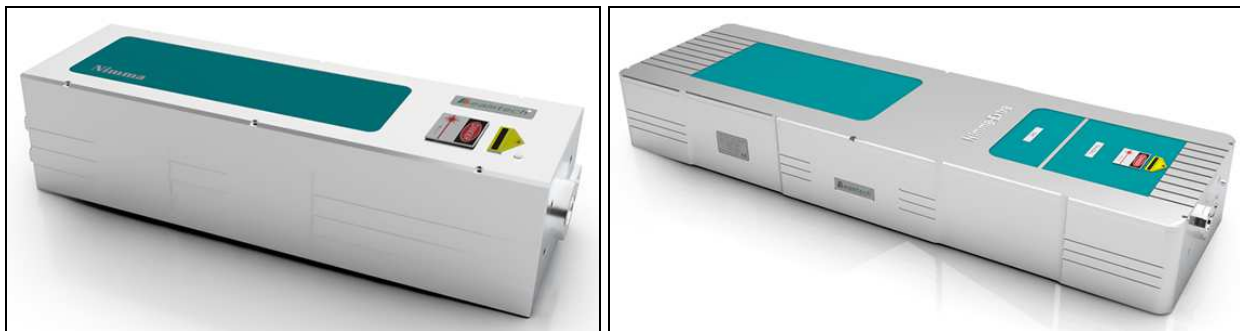
Part number		STLB-LA-20-xxxx	STLB-LA-80-xxxx
Pulse repetition rate (Hz)		1-100	20
Pulse energy (mJ)	1064nm	20	80
	532nm	12	50
	355nm	4	15
	266nm	2	8
Energy stability ² RMS	1064nm	≤1%	≤0.5%
	532nm	≤2%	≤2%
	355nm	≤4%	≤4%
	266nm	≤4%	≤4%
Pulse width ³ (ns)		10	10
Divergence ⁴ (mrad)		2	2
Pointing stability (urad)		≤50	≤50
Beam dia. ⁵ (mm)		3	4
Polarization		Horizontal	Horizontal
Jitter ⁶ (RMS) (ns)		≤1	≤1
Cooling		Air	Air

Power input		220VAC/50-60Hz, 10A	220VAC/50-60Hz, 10A
Power consumption (W)		800	800
Operation temp. (°C)		5-30	5-30
Storage temp. (°C)		5-50	5-50
Dimension ⁷ (mm)	Head	413x160x128	413x160x128
	Power	380x323x89	380x323x89

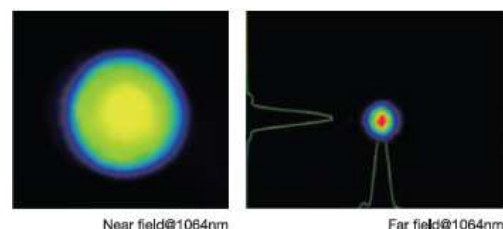
1. All the specifications unless otherwise stated are for Q-switched 1064nm operation. The xxxx in the part numbers is laser wavelength.
2. Dev to average (shot to shot for 99% of pulses)
3. Full width half max. (FWHM)
4. Full angle at 1/e² of the peak
5. With respect to external trigger
6. Measured at the laser output
7. All the dimensions are the lasers with 4th harmonic generation (266nm).



3. STLB-NI Series Lasers



- Compact size
- High uniformity of beam profile
- Industrial design to ensure long term operation
- High SHG and UV efficiency
- Built to withstand various environment
- Easy for system integration



STLB-NI series lasers are middle energy level Q-switched nanosecond Nd:YAG laser. The fundamental wavelength covers energy level from 400 mJ to 2000 mJ. These lasers possess the features of compact size, good pointing stability, high energy stability, high reliability, etc. The SHG, THG and FHG are available.

These lasers provide two types of laser mode, multimode and VRM mode. The scientific and industrial design ensures the good beam quality. Features as optical shutter, flow sensor, power supply interlock make sure the safety use as the top priority.

Up to now, around 4000 units have been delivered all over the world. They are the perfect choice for various kinds of scientific and industrial applications such as pump dye laser, pump OPO, pump Ti:Sapphire laser, laser shock peening, LCD repair, laser ablation, laser sintering, LIDAR.



LIDAR



Pumping Dye Laser



LIBS

Part number		STLB-NI-400-xxxx	STLB-NI-600-xxxx	STLB-NI-900-xxxx	STLB-NI-Extra-xxxx
Pulse repetition rate (Hz)		1-10	1-10	1-10	1-10
Pulse energy (mJ)	1064nm	450	650	900	2000
	532nm	250	350	480	1000
	355nm	90	150	270	600
	266nm	50	65	90	150
Energy stability ² RMS	1064nm	≤1%	≤1%	≤1%	≤1%
	532nm	≤2%	≤2%	≤2%	≤2%
	355nm	≤4%	≤4%	≤4%	≤4%
	266nm	≤4%	≤4%	≤4%	≤4%
Pulse width ³ (ns)	1064nm	≤9	≤9	≤9	~9
	532nm	≤8	≤8	≤8	≤8
	355nm	≤7	≤7	≤7	≤7
	266nm	≤7	≤7	≤7	≤7
Divergence ⁴ (mrad)	1064nm	≤0.6	≤0.6	≤0.6	≤0.5
Pointing stability (urad)		≤30	≤30	≤30	≤50
Jitter ⁵ (RMS) (ns)		≤1	≤1	≤1	≤1
Beam dia. ⁶ (mm)	1064nm	8	8	9	11
Spatial mode profile	Near field	>70%	>70%	>70%	>70%
	Far field	>95%	>95%	>95%	>95%
Polarization	Horizontal	1064/355/266nm	1064/355/266nm	1064/355/266nm	1064/355/266nm
	Vertical	532nm	532nm	532nm	532nm
Cooling		Air to water	Air to water	Air to water	Chiller
Power input		220VAC/50-60Hz, 10A	220VAC/50-60Hz, 10A	220VAC/50-60Hz, 10A	220VAC/50-60Hz, 10A
Power consumption (kW)		2	2	2	3
Cable length (m)	Control	3	3	3	3
	Power	1.8	1.8	1.8	1.8
	Umbilical	3	3	3	3
Operation temp. (°C)		5-30	5-30	5-30	5-30
Storage temp. (°C)		5-50	5-50	5-50	5-50
Dimension ⁷ (mm)	Head	810.5x150x142	810.5x150x142	810.5x150x142	820x290x136
	Power	568x296x590	568x296x590	568x296x590	568x296x590

1. All the specifications unless otherwise stated are for Q-switched 1064nm operation. The xxxx in the part numbers is laser wavelength. For example, STLB-NI-400-532 is 532nm laser and it includes 1064nm and 532nm modules.

2. Dev to average (shot to shot for 99% of pulses)

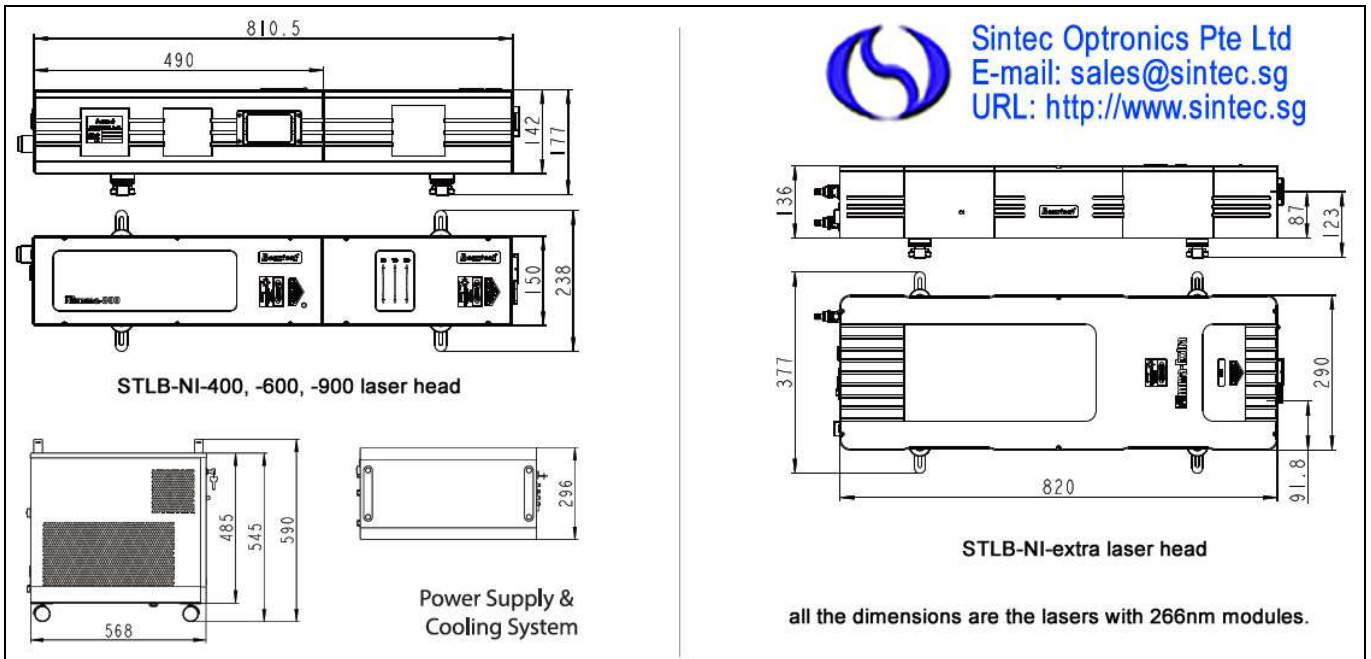
3. Full width half max. (FWHM)

4. Full angle at 1/e² of the peak

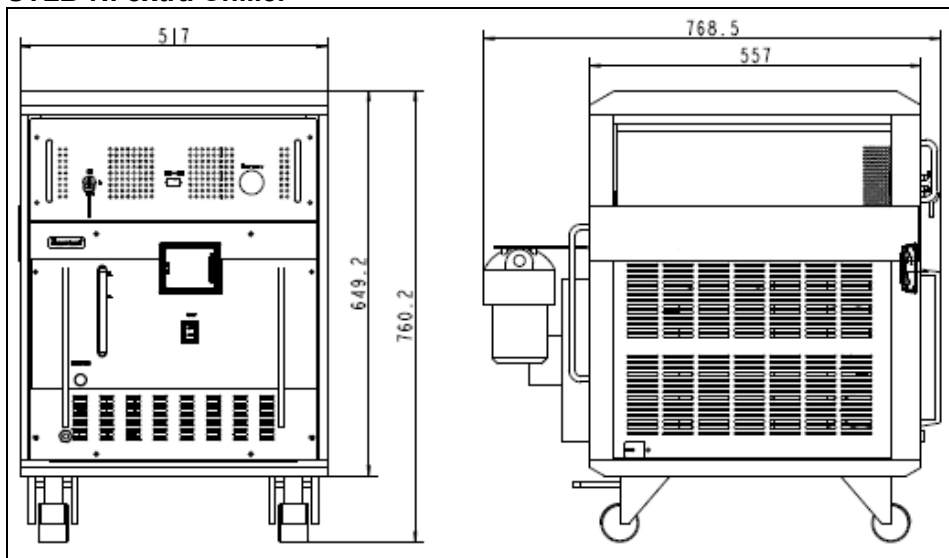
5. With respect to external trigger

6. Measured at the laser output

7. All the dimensions are the lasers with 4th harmonic generation (266nm).



STLB-NI-extra Chiller



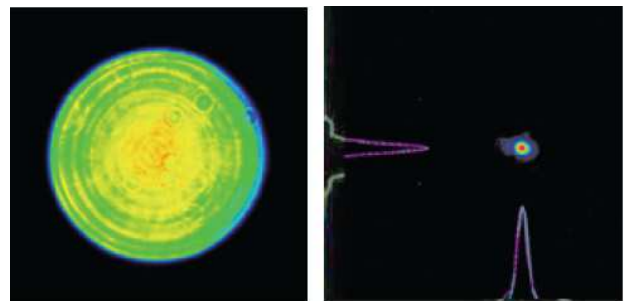
4. STLB-SGR Series Q-Switched Nd:YAG Laser



STLB-SGR Series Super-Gaussian Resonator series Q-Switched Nd:YAG lasers combine VRM (variable reflectivity mirror) with unstable resonator design creating a cavity with large TEM00 mode volume for excitation and energy extraction. A “flat-top-hat” can be specified with uniform energy distribution or “VRM Gaussian” profiles.

STLB-SGR Series close-coupled diffuse pump chamber delivers uniform pumping of the laser rod for optimum lasing excitation efficiency and allows for higher stored energy by eliminating parasitic oscillations within the pump chamber.

The pump chamber uses chemically inert materials to withstand high pumping energy and absorb unwanted UV and IR radiation emitted by the flash lamps. One or more amplifiers can be added to the oscillator for higher energy output. With scientific or industrial grade models available, the STGR series will fit right in with your scientific research, medical or OEM industrial application.



Near field @1064nm

Far field @1064nm

Features:

- Fundamental wavelength covers 2-6 J output
- Higher harmonics available
- Repetition rate up to 50 Hz
- Injection seeded for narrow linewidth
- RS232 and TTL interface for remote or external control
- Invar structure inside

Applications:

->Photo chemistry ->Molecular chemistry ->Non-linear optics ->Laser illumination ->LIDAR ->Laser cleaning ->Laser ablation ->Optical remote sensing ->LIF (Laser Induces Florescence) ->PLD (Pulsed Laser Deposition)
-> Plasma diagnostics

Technical Specifications

Part no.		STLB-SGR-10	STLB-SGR-20				STLB-SGR-30		STLB-SGR-40		STLB-SGR-50		STLB-SGR-60	
Rep. rate		10	10	20	30	50	5	10	5	10	5	10	5	10
Energy (mJ)	1064nm	1000	2000	2000	2000	1500	3000	3000	4000	4000	5000	5000	6000	6000
	532nm	500	1000	1000	1000	750	1500	1500	2000	2000	2500	2500	3000	3000
	355nm	250	500	400	400	300	750	750	1000	1000	1250	1250	1500	1500
	266nm	90	180	100	90	50	250	200	300	300	400	350	500	400
Energy stability ² RMS	1064nm	<1%												
	532nm	<2%												
	355nm	<4%												
	266nm	<4%												
Power drift ³	1064nm	<3%												
	532nm	<5%												

	355nm	<6%													
	266nm	<8%													
Pulse width ⁴		1064nm: 8-10ns; other wavelength: 7-10ns													
Spatial profile ⁵	Near field	>70%													
	Far field	>90%													
Beam dia. ⁶ (mm)		10	12	12	12	12	15	15	15	15	17	17	20	20	
Divergence ⁷		<0.5mrad													
Pointing stability		<50urad													
Jitter ⁸ (RMS)		<1ns													
Linewidth	Standard	<1cm ⁻¹													
	Injection seeded	<0.0031cm ⁻¹													

Part no.		STLB-SGR-S400	STLB-SGR-S500	STLB-SGR-S600	STLB-SGR-S600
Rep. rate (Hz)		10	20/30/50	20/30	10
Energy (mJ)	1064nm	400	500	600	800
	532nm	200	250	300	400
	355nm	100	100	150	200
	266nm	40	40	50	80
Divergence ⁷		<0.7mrad	<0.5mrad	<0.5mrad	<0.5mrad
Beam dia. ⁸		8mm	8mm	8mm	8mm
Other specifications		Please refer to the table above	Please refer to the table above	Please refer to the table above	Please refer to the table above

1. All specifications unless otherwise stated are for 1064nm operation.
2. Dev. To average (shot to shot for 99% of pulses).
3. Average for 8 hours with room temp. variation less than +/-3 deg.
4. Full width half max (FWHM)
5. Near field profiles measured at the focal plane, least square fit to Gaussian profile.
6. Measured at the laser output.
7. Full angle at 1/e² of the peak.
8. With respect to external trigger.

Other Specifications

		STLB-SGR-S	STLB-SGR-10	STLB-SGR-20/30/40	STLB-SGR-60
Size (LxWxH) (mm)	Laser head	1162x333x290.5	1162x410x290.5	1162x410x290.5	1266x565x243
	Power supply	476x443x200	914x520x737	914x520x737	914x520x737
	Cooling system	N/A	N/A	240x170x70	836x688x1125
Power input		220V-50Hz-16A	220V-50Hz-16A	220V-50Hz-16A	380V-50Hz-25A
Operation temp.		5-30°C	5-30°C	5-30°C	5-30°C
Cables	Control line	3m	3m	3m	3m
	Power line	1.8m	1.8m	1.8m	1.8m
	Umbilical line	3m	3m	3m	3m

5. STLB-SGRE Series High-energy EO Q-switched Lasers

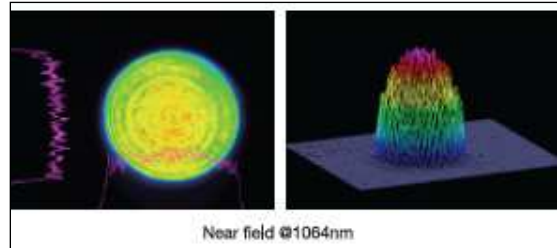
STLB-SGRE series lasers have been developed since 2007 as high energy nanosecond laser systems which are suitable for laser peening, pump source, plasma physics, etc. STLB-SGRE series lasers provide the customization service. Specifications such as wavelength, repetition rate, energy, pulse width, beam profile, SLM are all available for customization. We also developed and gained much experience on burst mode technique and vehicular applications during this process. As a result, we can provide the ideal laser source solution for the customer in various applications.


Main Features:

- High output energy up to 50J@1064 nm
- 8-26ns pulse width, high peak power
- Unique cavity design to ensure uniform beam profile
- Good stability for long term operation
- Local and remote control interface with compatibility
- Customization version available

Applications:

- Laser peening
- Pump Ti:Sapphire laser
- Plasma diagnostics
- Nonlinear optics
- LIDAR
- Laser cleaning



Model ¹	STLB-SGRE-04	STLB-SGRE-06	STLB-SGRE-08	STLB-SGRE-10	STLB-SGRE-12	STLB-SGRE-15	STLB-SGRE-20	STLB-SGRE-25	STLB-SGRE-30	STLB-SGRE-40	STLB-SGRE-50	
Wavelength ²	1064nm											
Rep rate, Hz	20/30/50	5/10	5/10	5/10	5	5	2	2	5	2	2	
Pulse energy at 1064nm	3-4J	6J	8J	10J	12J	15J	20J	25J	30J	40J	50J	
Pulse width at 1064nm ³	10-12ns, 15-20ns optional								12-15ns, 15-20ns optional			
Divergence ⁴	≤0.5mrad for VRM, ≤4mrad for MM											
Peak to average	≤1.8:1											
Polarisation	Linear 100:1									Cross		
Energy stability ⁵ RMS	<1%											
Power drift RMS	<5%											
Pointing stability	<50urad											
Jitter ⁶ RMS	<1ns											
Warm up time ⁷	<5min											

1. All specifications unless otherwise stated are for 1064nm operation.
2. SHG, THG, FGH are available upon request.
3. Full width half max (FWHM). The rising time can be cut down to <5-10ns by slice as option.
4. Full angle at 1/e² of the peak.
5. Dev. To average (shot to shot for 99% of pulses).
6. With respect to external trigger.
7. Time to full energy.

Mechanical & Utilities

Size (LxWxH), mm	Customisation
Electrical input	380VAC 50Hz, 50A, 3-phase
Water cooling	Distilled water, chiller
Operation temperature	10-30 degree
Storage temperature	0-40 degree

STLQ Series Nd:YAG Pulsed Lasers

1. Compact Air-cooled Nd:YAG Laser Model STLQ-115

Up to 90mJ @ 1064nm and built in harmonic generators 532nm, 355nm, 266nm



FEATURES:

- No cooling water required
- Compact & rigid design
- Excellent beam profile
- Continuous operation mode
- Built-in harmonics
- Turn-key operation
- Remote control

The STLQ-115 is an ultra-compact model of air-cooled Nd:YAG laser for applications requiring compact and undemanding laser source.

Due to application of original high-efficiency heat exchanger the STLQ-115 laser unlike most air-cooled laser models can work continuously with PRR up to 3Hz and cyclically with PRR up to 5Hz. The above operating modes are realised at output energies conventionally attained at water-cooled lasers.

The STLQ-115 laser provides up to 90mJ output pulse energy at the fundamental with possibility of further conversion of IR radiation into the second harmonic as well as into the third or fourth harmonic.

All the harmonic generators are built-in and temperature stabilised. This peculiarity together with optimised rigid laser head design ensures output radiation long-term stability comparable to that of standard laboratory lasers.

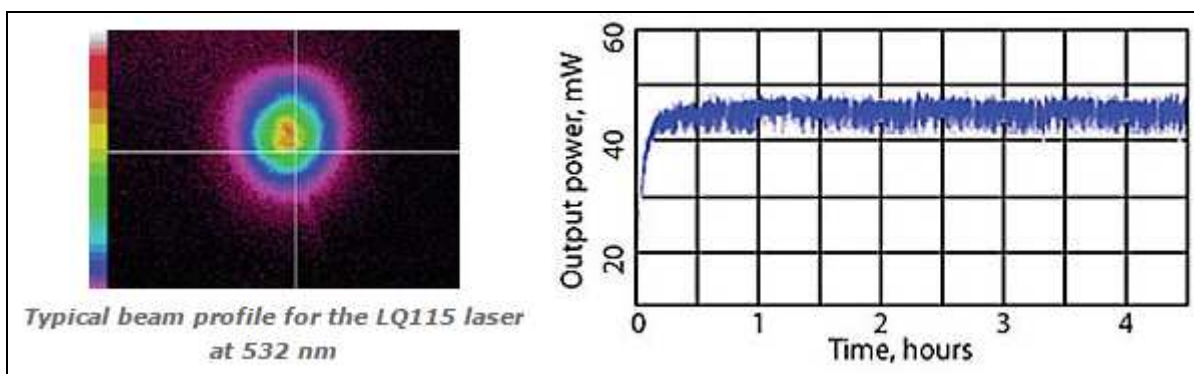
Unlike most compact lasers using DKDP-based Pockels cells, the STLQ-115 incorporates LiNbO₃ electro-optical Q-Switch. Such Q-Switch is not hygroscopic and retains its parameters within a wide temperature range and ensures reliable and stable laser operation.

Dust-proof laser head design allows to align main optical components without removing the cover that increases their life in the field.

To reduce your time expenses on routine service of the STLQ-115 laser we use only long lifetime flash lamps by Heraeus Noblelight Ltd. Besides, the flash lamp replacement procedure is elementarily easy even for a unskilled user.

Absence of water cooling system gives to the STLQ-115 laser a number of essential operational advantages:

- Footprint of both the laser head and power supply is considerably reduced.
- Integration of the laser into different mobile systems is facilitated.
- Technical reliability of the device operation is increased.
- Operating costs are reduced.

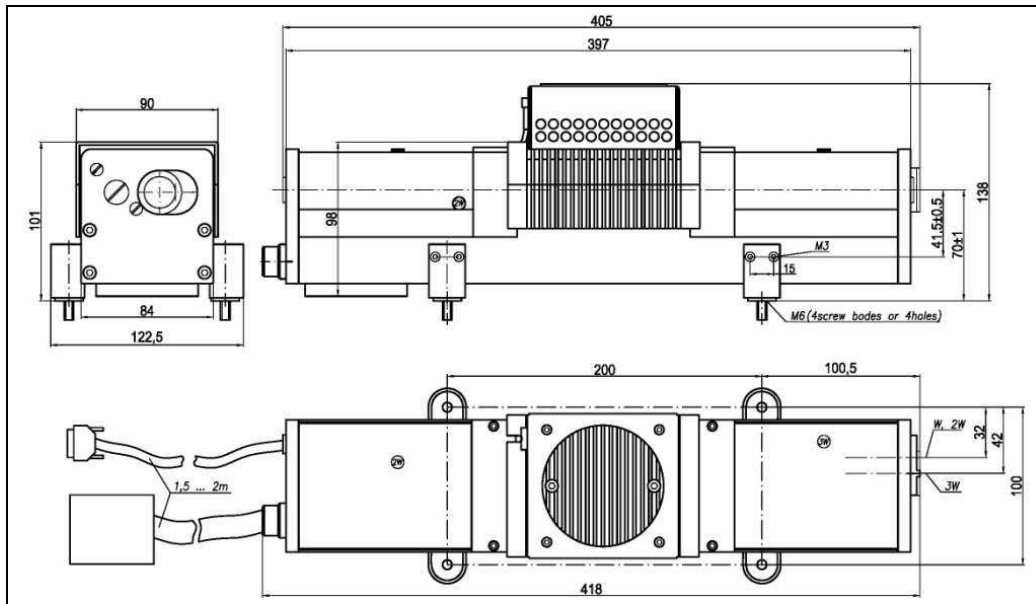


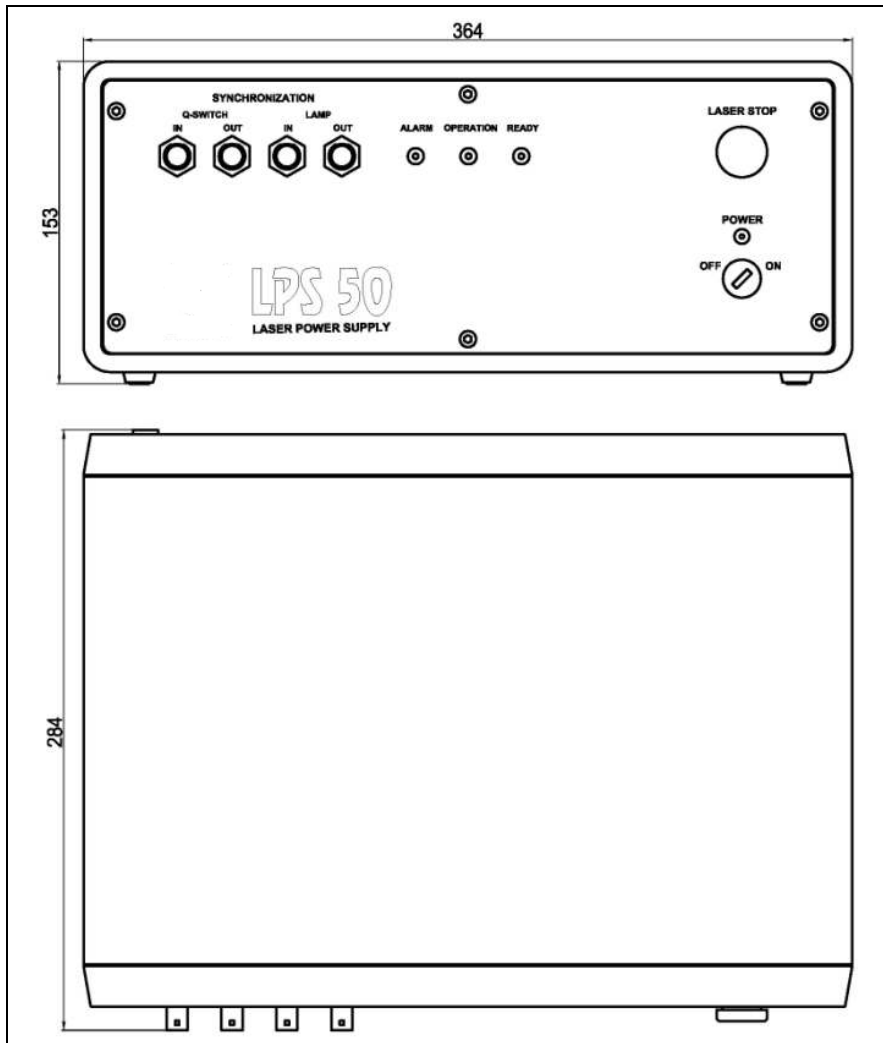
Model		STLQ-115 (1064 nm)			STLQ-115 (532 nm)		
PRR, Hz		1	2	3	1	2	3
Output energy, mJ, not less than	1064 nm	90	90	75	90	90	75
	532 nm	-			45	40	30
	355 nm				-		
	266 nm						
Pulse-to-pulse energy stability, ±% ¹⁾		3	3.5	4.5	3	3.5	4.5
Model		STLQ-115 (355 nm)			STLQ-115 (266 nm)		
Pulse repetition frequency, Hz		1	2	3	1	2	3
Output energy, mJ, not less than	1064 nm	90	90	75	90	90	75
	532 nm	35	30	22	45	40	30
	355 nm	20	20	15	-	-	-
	266 nm	-	-	-	6	5	4
Pulse-to-pulse energy stability, ±% ¹⁾		3	3.5	4.5	3	3.5	4.5
Model		For all the models					
Pulse duration, ns ¹⁾		5...9					
Beam diameter, mm ¹⁾		≤ 4.5					
Divergence, mrad ¹⁾		≤ 3					
Jitter, ns ²⁾		≤ 3.5					
Power consumption, W		≤ 200					
Dimensions (LxWxH), mm		Laser head			410 x 125 x 130		
		Power supply			320 x 370 x 150		

* Specifications are subject to change without notice.

¹⁾ At 1064 nm.

²⁾ Relative to the Q-Switch driver external trigger pulse.





2. Compact Nd:YAG Laser Model STLQ-215

Up to 180mJ @ 1064nm and harmonic generators up to 213nm



FEATURES:

- Excellent beam quality
- Built-in harmonic generators up to 213 nm
- Dust- and water-proof design
- Reliability of industrial equipment
- Compact single phase power supply
- No need for external water

The STLQ-215 laser is built on the basis of a model produced for aerospace industry and combines excellent beam quality required for advanced scientific research with a highest reliability of industrial equipment.

Original and reliable optical scheme ensures compensation of both astigmatism and thermo-optical distortions and places at your disposal laser radiation of the highest quality.

One more peculiarity of the laser optical scheme is that all the components operate at loads considerably lower than the admissible values. Such a smooth operation mode not only increases life time of the components but also ensures unique operational reliability of the whole laser. As a result, you can use the STLQ-215 laser for your experiments day-to-day and year-to-year having forgotten about repairs and other unpleasant operation costs.

All the laser optical components are installed on a rigid base fixed to the housing with specially developed dampers. Due to this, mechanical vibrations and housing stress no way influence the quality of the cavity alignment.

All the critical components of the laser are thermally stabilised which in combination with vibration-proof design ensures unsurpassed long-term output radiation stability. The efficient thermostats used in the STLQ-215 ensure warm-up time of less than 10min.

To reduce your time expenses on routine service of the STLQ-215 we provided flash lamp life time of more than 50 million pulses and foreseen easy and quick procedure of its replacement.

It should be noted that the laser design allows to replace the flash lamp without removing the laser head upper cover. Such a technical solution considerably reduces risks of the optical components contamination as well as increases operational reliability of the device.

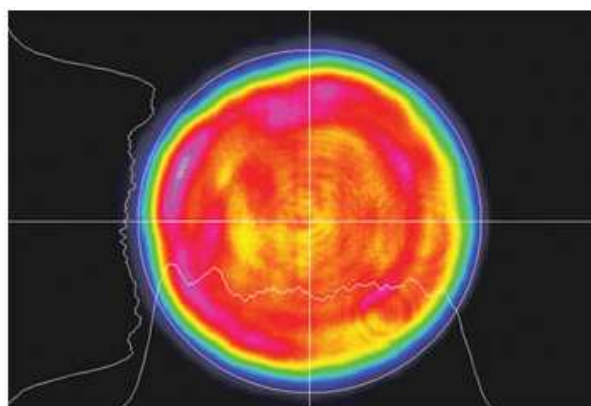
Closed-loop water-to-air cooling system is integrated into a compact single-phase laser power supply which can be controlled both from PC and via the remote control unit.

If you plan to use the STLQ-215 in laboratory experiments, as a bonus you will get unsurpassed operational reliability and minimization of accompanying expenses.

If you are attracted by the reliability of the STLQ-215 laser and you will use it for industrial or field applications, in addition to a highest reliability you get beam quality conventionally available only for high-precision laboratory equipment.

The STLQ-215 is an ideal instrument for such applications as:

- Ti:Sapphire Lasers and OPO Pumping
- Dye Lasers Pumping
- Spectroscopy
- LIDAR
- LIF (Laser Induced Fluorescence)
- LIBS (Laser Induced Breakdown Spectroscopy)
- Education
- PIV (Particle Image Velocimetry)
- Range-Finding
- Ablation
- Marking
- TFT-LCD Repair
- Flat Panel Display (FPD) Manufacturing

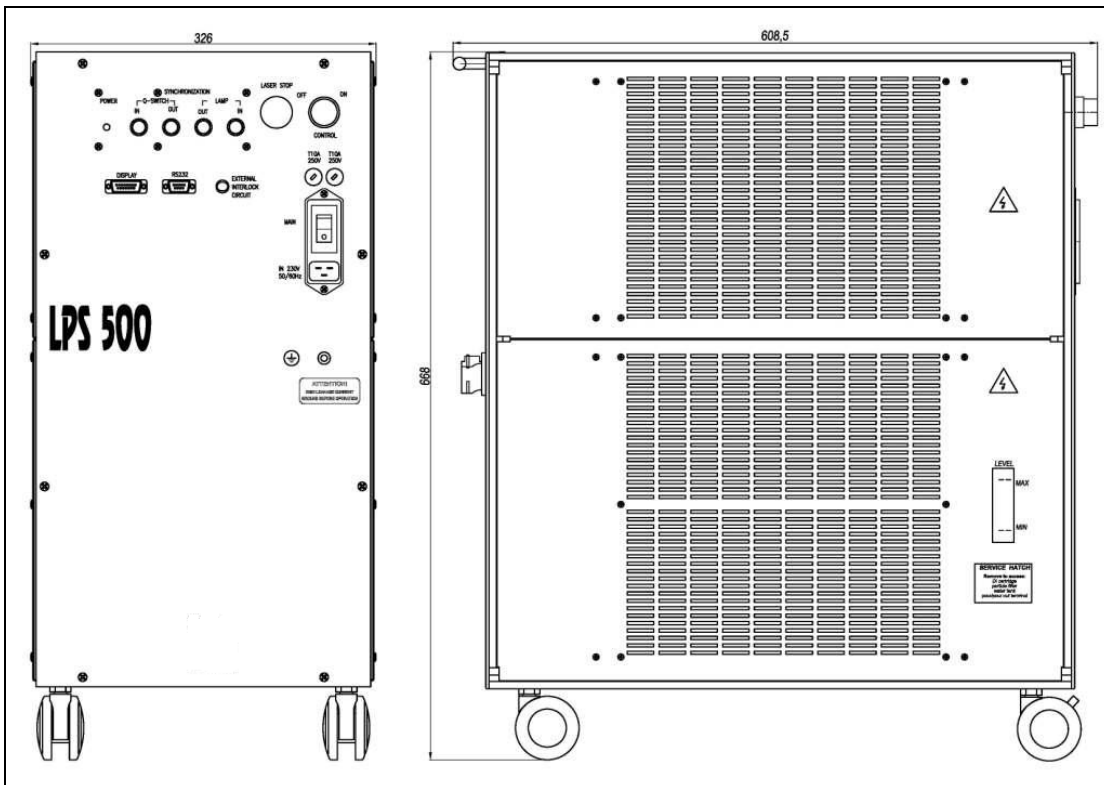
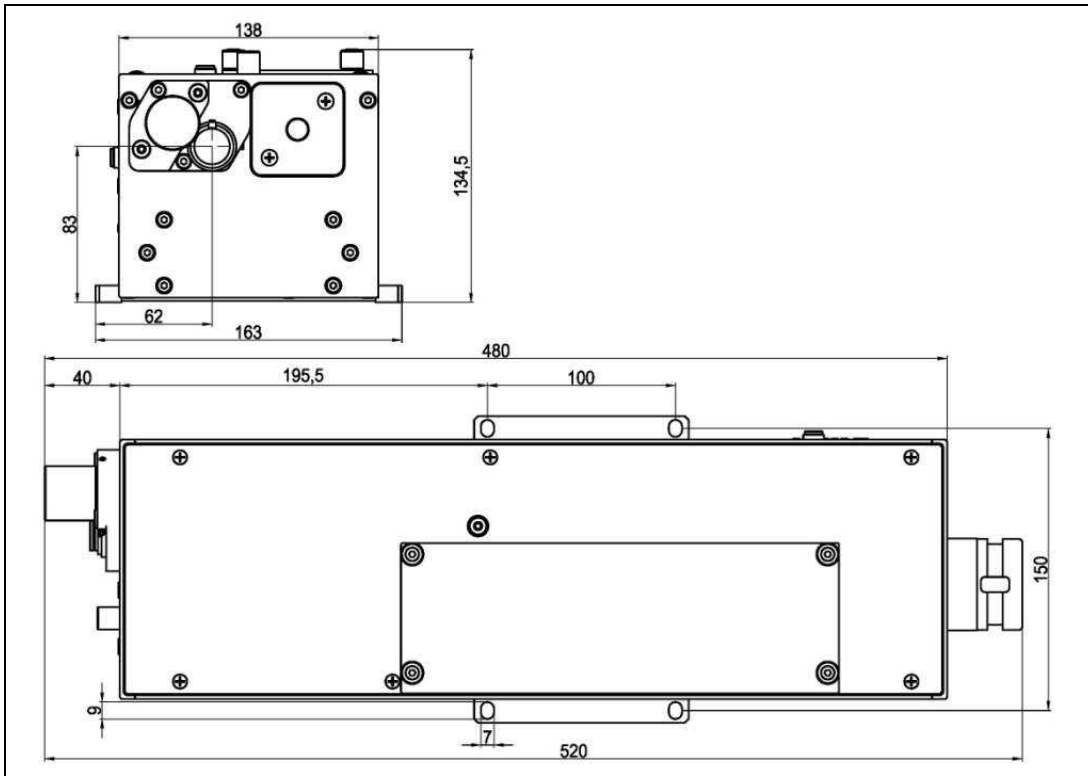


Typical LQ215 laser beam profile at 1064 nm. Near field

Model	STLQ-215 (1064 nm)		STLQ-215 (532 nm)		STLQ-215 (355 nm)		STLQ-215 (266 nm)		STLQ-215 (213 nm)		
	10	20	10	20	10	20	10	20	10	20	
PRR, Hz											
Output energy, mJ, not less than	1064 nm	180	180	180	180	180	180	180	180	180	
	532 nm		100	80	100	80					
	355 nm (HPV) ¹⁾			60	60	-	60	60			
	355 nm			50	45	-	50	45			
	266 nm						35				
	213 nm (HPV) ^{1), 2)}								8	6	
	213 nm ²⁾								6	5	
Model		For all the Models									
Pulse-to-pulse energy stability, ±% ³⁾		< 2.5									
Pulse duration, ns ³⁾		6...10									
Beam diameter, mm ³⁾		≤ 5									
Divergence, mrad ³⁾		≤ 1.5									
Jitter, ns ⁴⁾		≤ 1.5									
Power consumption, W		≤ 500									
Cooling system		water-to-air									
Dimensions (LxWxH), mm		Laser head		455 x 165 x 140							
		Power supply		620 x 330 x 670							

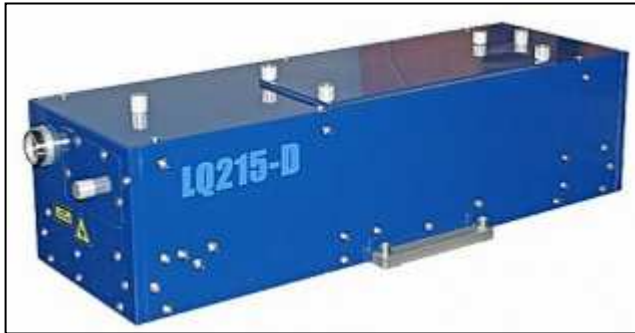
¹⁾ For the high-power version at 355 nm.

- 2) With the LG105 external fifth harmonic generator.
- 3) At 1064 nm.
- 4) Relative to the Q-Switch driver external trigger pulse.



3. Dual-Pulse Compact Nd:YAG Laser Model STLQ-215-D

Up to 100mJ @ 1064nm and 50mJ @ 532nm in each pulse



FEATURES

- Excellent beam quality
- 1064 nm or 532 nm output wavelength
- Beam pointing stability
- Dust- and water-proof design
- Reliability of industrial equipment
- Compact single phase power supply
- No need for external water

The STLQ-215-D is built on the basis of a laser produced for aerospace industry and combines excellent beam quality required for advanced scientific research and a highest reliability of industrial equipment.

The design of conventional lasers generating dual pulse is based either on combining two lasers or on successive generation of nanosecond pulses by one active element during one flash lamp discharge pulse. The first solution allows to build a system with the maximum capabilities for the user but leads to increase of its cost and dimensions. The second approach allows to create low-cost and compact systems but leads to reduction of each pulse energy and of laser beam profile worsening and stability as well as limits the delay range between the pulses.

The STLQ-215-D design demonstrates advantages of both the variants but eliminates their disadvantages: output radiation is generated by two separate cavities while both the Nd:YAG rods are installed in one pump chamber and are pumped by one flash lamp. Both the cavities are integrated into a common laser head controlled by a common power supply that provides to the user minimum dimensions and convenience in controlling dual pulse parameters.

Original and reliable optical scheme ensures compensation of both astigmatism and thermo-optical distortions and places at your disposal laser radiation of the highest quality.

One more peculiarity of the laser optical scheme is that all the components operate at loads considerably lower than the admissible values. Such a smooth operation mode not only increases life time of the components but also ensures unique operational reliability of the whole laser. As a result, you can use the STLQ-215-D laser for your experiments day-to-day and year-to-year having forgotten about repairs and other unpleasant operation costs.

All the laser optical components are installed on a rigid base fixed to the housing with specially developed dampers. Due to this, mechanical vibrations and housing stress no way influence the quality of the cavity alignment.

All the critical components of the laser are thermally stabilised which in combination with vibration-proof design ensures unsurpassed long-term output radiation stability. The efficient thermostats used in the STLQ-215-D ensure warm-up time of less than 10min.

To reduce your time expenses on routine service of the STLQ-215-D we provided flash lamp life time of more than 50 million pulses and foreseen easy and quick procedure of its replacement.

It should be noted that the laser design allows to replace the flash lamp without removing the laser head upper cover. Such a design concept considerably reduces risks of the optical components contamination as well as increases operational reliability of the device.

Closed-loop water-to-air cooling system is integrated into a compact single-phase laser power supply which can be controlled both from PC and via the remote control unit.

Model		STLQ-215-D
Maximum PRR, Hz ¹⁾		20
Each pulse output energy, mJ, not less than ²⁾	1064 nm	100
	532nm	50
Pulse duration, ns ²⁾		6...10
Adjustable delay between pulses, μ s		0...80
Step of adjustable delay between pulses, μ s		1 (0.1 – upon request)
Beam diameter, mm ³⁾		≤ 5

Model		STLQ-215-D
Divergence, mrad ³⁾		≤ 1.5
Pulse-to-pulse energy stability, ±% ³⁾		< 2.5
Beam pointing stability, mrad, not worse than ³⁾		0.1
Jitter, ns ⁴⁾		< 1
Power consumption, W		≤ 500
Cooling system		water-to-air
Dimensions (LxWxH), mm	Laser head	534 x 190 x 135
	Power supply	620 x 330 x 670

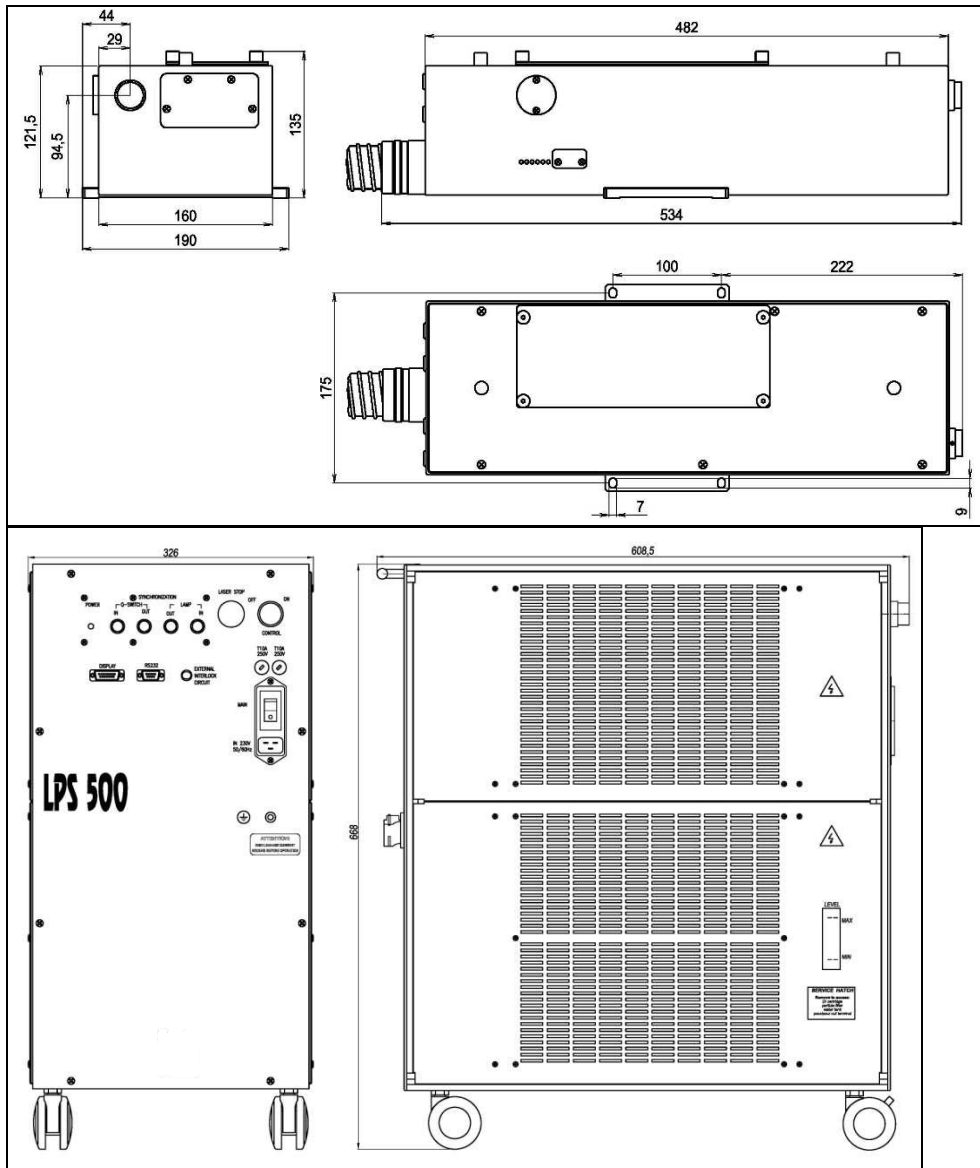
* Specifications are subject to change without notice.

1) The laser operates at fixed PRR stipulated on placing an order. The PRR can be from 1Hz to 20Hz. All the parameters are specified for 20Hz PRR.

2) The difference between pulse energies in the dual pulse does not exceed ± 5%.

3) At 1064 nm.

4) Relative to the Q-Switch driver external trigger pulse.



4. Pulsed Nd:YAG Laser Model STLQ-529

Up to 500mJ at 1064nm and harmonic generators up to 213nm



FEATURES:

- High PRR
- High pulse energy up to 0.5 J
- Excellent beam quality
- All harmonics available up to 213 nm
- Compact single-phase power supply
- No external water requirements

The STLQ-529 is a series of popular compact lamp-pumped Nd:YAG lasers offering uncompromising combination of the main parameters: high output power, exceptional beam quality and minimum laser head and power supply dimensions.

All the lasers of the STLQ-529 series are based on ring cavity and incorporate a pump chamber with diffuse ceramic reflector. Due to this technical solution the STLQ-529 lasers, unlike the lasers with traditional linear cavity, provide homogeneous close to flat-top laser beam profile and possess exceptional stability of output energy and spatial radiation parameters. Beam pointing stability of the STLQ-529 is better than 20 μ rad in the vertical plane and 80 μ rad in the horizontal plane.

All the critical components of the laser are thermally stabilised which in combination with vibration-proof design ensures unsurpassed long-term output radiation stability. The efficient thermostats used in the STLQ-529 ensure warm-up time of less than 10 min.

To reduce your time expenses on routine service of the STLQ-529 we provided flash lamp life time of more than 30 million pulses and foreseen easy and quick procedure of its replacement.

Closed-loop water-to-air cooling system is integrated into a compact single-phase laser power supply which can be controlled both from PC and via the remote control unit.

Model		STLQ-529A (1064 nm)		STLQ-529A (532 nm)		STLQ-529A (355 nm)		STLQ-529A (266 nm)		STLQ-529A (213 nm)	
		5	10	5	10	5	10	5	10	5	10
PRR, Hz		5	10	5	10	5	10	5	10	5	10
Output energy, mJ, not less than	1064 nm	500		500		500		500		500	
	532 nm			280		225		280		225	
	355 nm (HPV) ¹⁾					130	130	-		130	130
	355 nm	-				110	100	-		110	100
	266 nm			-				85	70	-	
	213 nm (HPV) ^{1), 2)}					-		-		25	20
	213 nm ²⁾									20	15
Beam diameter, mm ³⁾		≤ 8									
Power consumption, W		≤ 600									
Model		STLQ-529B (1064 nm)		STLQ-529B (532 nm)		STLQ-529B (355 nm)		STLQ-529B (266 nm)		STLQ-529B (213 nm)	
		10	20	10	20	10	20	10	20	10	20
PRR, Hz		10	20	10	20	10	20	10	20	10	20
Output energy, mJ, not less than	1064 nm	350		350		350		350		350	
	532 nm			190		140		190		140	
	355 nm (HPV) ¹⁾	-		-		100	100	-		100	100
	355 nm					90	80	-		90	80

Model		STLQ-529B (1064 nm)	STLQ-529B (532 nm)	STLQ-529B (355 nm)	STLQ-529B (266 nm)	STLQ-529B (213 nm)
	266 nm				60	40
	213 nm (HPV) ^{1), 2)}			-	-	18
	213 nm ²⁾					15
Beam diameter, mm ³⁾		≤ 6				
Power consumption, W		≤ 800				
Model		STLQ-529C (1064 nm)	STLQ-529C (532 nm)	STLQ-529C (355 nm)	STLQ-529C (266 nm)	STLQ-529C (213 nm)
PRR, Hz		50				
Output energy, mJ, not less than	1064 nm	150	150	150	150	150
	532 nm		80	65	80	65
	355 nm			40	-	40
	266 nm	-	-	-	20	-
	213 nm ²⁾				-	4,5
Beam diameter, mm ³⁾		≤ 5				
Power consumption, W		≤ 1000				
Model		For all the Models				
Pulse-to-pulse energy stability, ±% ²⁾		< 2,5				
Pulse duration, ns ³⁾		10...13				
Divergence, mrad ³⁾		≤ 1.5				
Jitter, ns ⁴⁾		≤ 1				
Cooling system		water-to-air				
Dimensions (LxWxH), mm		Laser head			615 x 180 x 120	
		Power supply			620 x 330 x 670	

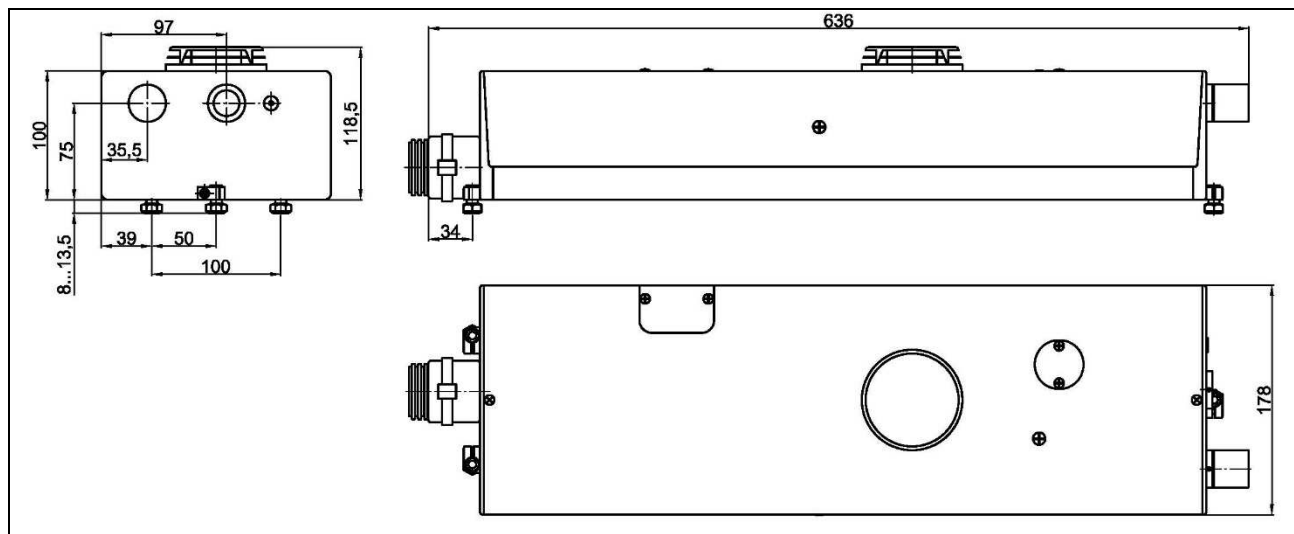
* Specifications are subject to change without notice.

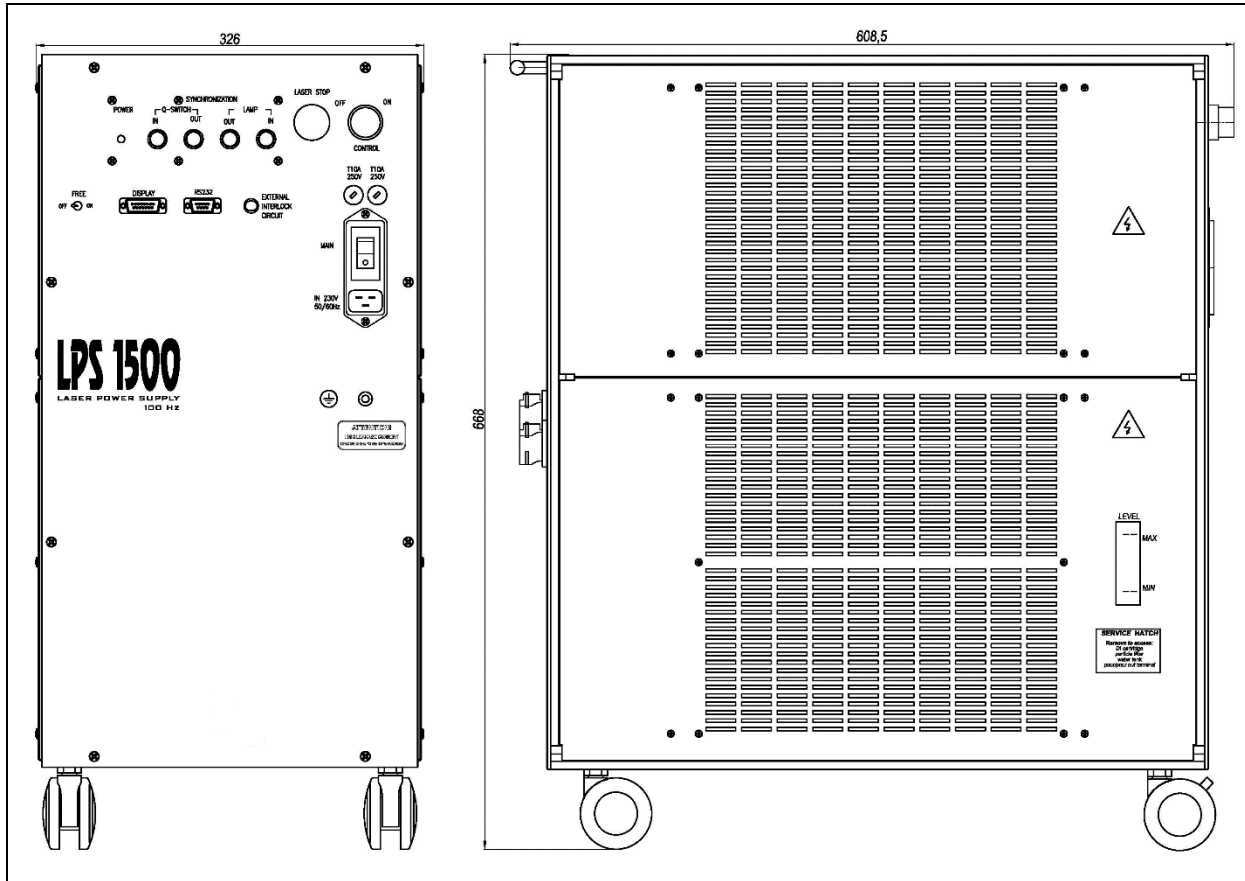
1) For the high-power version at 355 nm.

2) With the STLG105 external fifth harmonic generator.

3) At 1064 nm.

4) Relative to the Q-Switch driver external trigger pulse.





5. 100 Hz Nd:YAG Laser Model STLQ-629

Up to 200mJ @ 1064nm and harmonic generators up to 213nm



FEATURES:

- High PRR
- High pulse energy
- Excellent beam quality
- All harmonics available up to 213 nm
- Compact single-phase power supply
- No external water requirements

The combination of high laser pulse energy, high PRR and excellent beam quality unattainable for most conventional models is the peculiarity of the STLQ-629 laser.

Active elements of master oscillator and amplifier are installed in one pump chamber and are pumped by a single flash lamp. The master oscillator is based on the time-proven ring cavity design ensuring excellent beam quality while the classical single-pass amplifier is supplemented with the optics compensating thermo-optical aberrations.

Particularly due to this technical solution the STLQ-629 provides unique combination of parameters in a compact, reliable and inexpensive-in-operation design.

All the critical components of the laser are thermally stabilised which in combination with vibration-proof design ensures unsurpassed long-term stability of output radiation. The efficient thermostats used in the STLQ-629 ensure warm-up time of less than 10min.

To reduce your time expenses on routine service of the STLQ-629 we provided flash lamp life time of more than 50 million pulses and foreseen easy and quick procedure of its replacement.

It should be noted that the laser design allows to replace the flash lamp without removing the laser head upper cover. Such a design concept considerably reduces risks of the optical components contamination as well as increases operational reliability of the device.

Closed-loop water-to-air cooling system is integrated into a compact single-phase laser power supply which can be controlled both from PC and via the remote control unit.

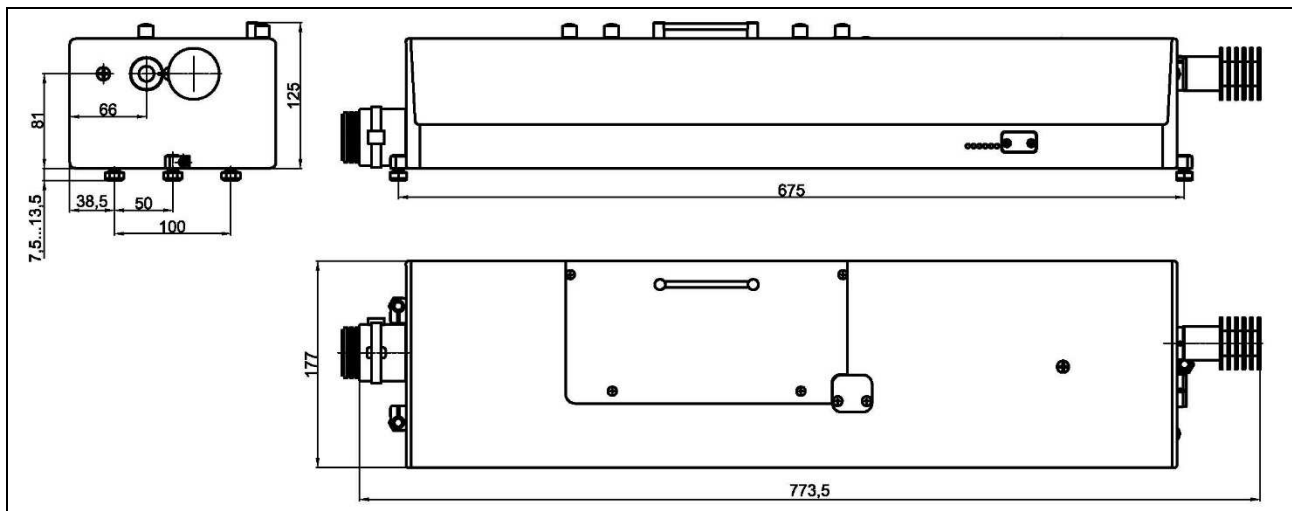
Model		STLQ-629 (1064 nm)	STLQ-629 (532 nm)	STLQ-629 (355 nm)	STLQ-629 (266 nm)	STLQ-629 (213 nm)
Output energy, mJ, not less than	1064 nm	200	200	200	200	200
	532 nm	-	90	80	90	80
	355 nm		50	-	50	
	266 nm		-	15	-	
	213 nm ¹⁾		-	5.5	-	
Model		For all the Models				
PRR, Hz		100				
Beam diameter, mm ²⁾		≤ 5				
Pulse-to-pulse energy stability, ±% ²⁾		± 1.5				
Pulse duration, ns ²⁾		9...12				
Divergence, mrad ²⁾		≤ 1.5				
Jitter, ns ³⁾		± 1.5				
Power consumption, W		≤ 2000				
Cooling system		water-to-air				
Dimensions (LxWxH), mm		Laser head			740 x 180 x 125	
		Power supply			620 x 330 x 670	

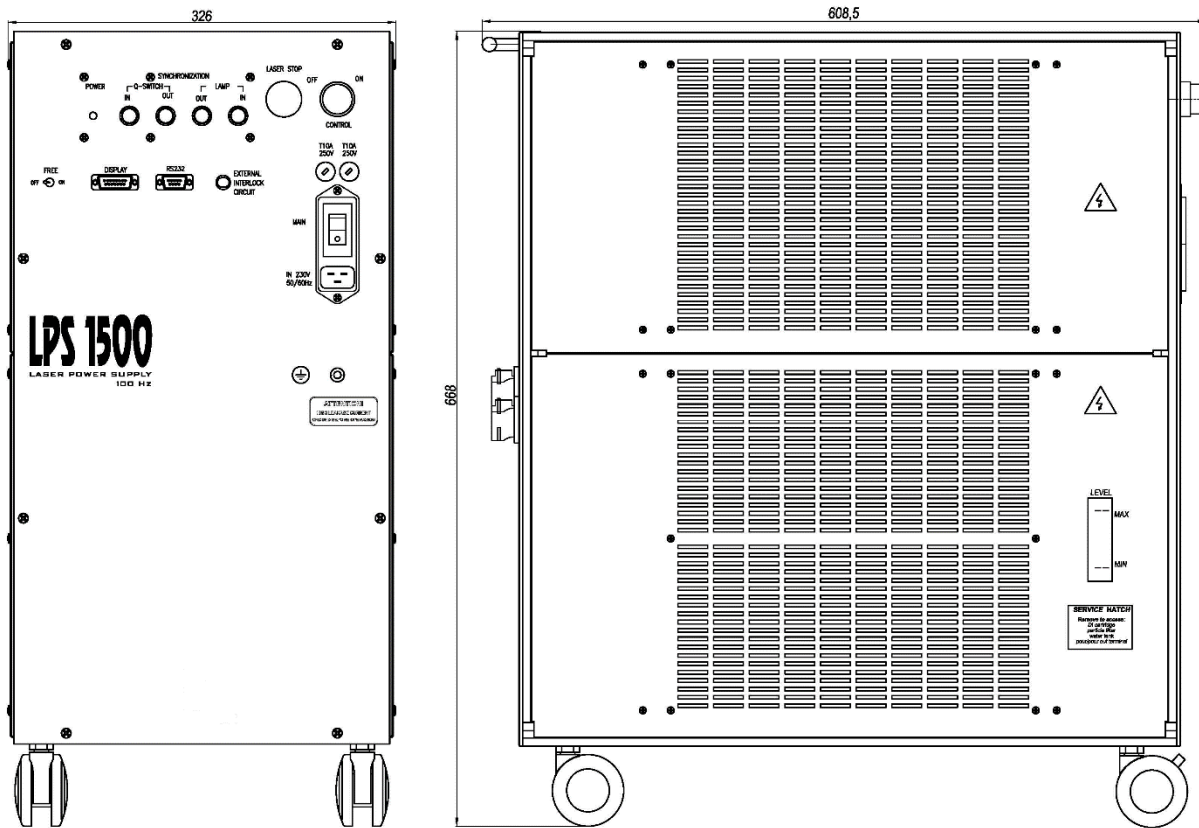
* Specifications are subject to change without notice.

1) With the STLG105 external fifth harmonic generator.

2) At 1064 nm.

3) Relative to the Q-Switch driver external trigger pulse.





6. TEM00 High-Power Pulsed Nd:YAG Laser Model STLQ-830

Up to 700mJ @ 1064nm in the TEM00 mode and harmonic generators up to 213nm



FEATURES:

- TEM₀₀, M² < 2
- Oscillator-amplifier configuration
- High pulse energy up to 0.7 J
- Divergence of 0.25 mrad
- High-power radiation in the VIS and UV ranges
- All the harmonics available up to 213 nm
- Compact single-phase power supply
- No external water requirements

The STLQ-830 is a new model of lamp-pumped Nd:YAG laser possessing unique laser radiation characteristics: linewidth of less than 0.1 cm⁻¹, low angular divergence of less than 0.25 mrad and high pulse energy up to 700 mJ at 1064 nm.

Master oscillator with high-stability ring cavity, preamplifier and high-power amplifier form at the laser output TEM00 diffractionally limited beam with high pulse energy and Gaussian profile in the far field.

High spectral radiation brightness with linewidth not more than 10pm and high coherence length of more than 10 cm is ensured by intracavity Fabry-Perot interferometer.

All the critical components of the laser are thermally stabilised which in combination with vibration-proof design ensures unsurpassed long-term stability of output radiation. The efficient thermostats used in the STLQ-830 ensure warm-up time of less than 10 min.

To reduce your time expenses on routine service of the STLQ-830 we provided flash lamp life time of more than 30 million pulses and foreseen easy and quick procedure of its replacement.

Closed-loop water-to-air cooling system is integrated into a compact single-phase laser power supply which can be controlled both from PC and via the remote control unit.

Model		STLQ-830 (1064 nm)	STLQ-830 (532 nm)	STLQ-830 (355 nm)	STLQ-830 (266 nm)	STLQ-830 (213 nm)
Output energy, mJ, not less than	1064 nm	700	700	700	700	700
	532 nm	-	450	350	450	315
	355 nm		300	-	300	
	266 nm		-	-	130	-
	213 nm ¹⁾		-	-	-	50
Model		For all the models				
PRR, Hz		10				
Beam quality		TEM ₀₀ , M ² <2				
Divergence, mrad ²⁾		≤0.25				
Beam diameter, mm ²⁾		9±0.5				
Output linewidth, cm ⁻¹ , not more than ²⁾		1				
Output linewidth with interferometer, cm ⁻¹ , not more than ²⁾		0.1				
Pulse duration, ns ^{2), 3)}		6...9				
Beam pointing stability, μrad, not worse than ²⁾		horizontal plane		±6		
		vertical plane		±20		
Pulse-to-pulse energy stability, ±% ²⁾		≤ 2				
Jitter, ns ^{3), 4)}		± 1				
Power consumption, W		≤ 1000				
Cooling system		water-to-air				
Dimensions (LxWxH), mm		Laser head		650 x 324 x 119		
		Power supply		700 x 366 x 693		

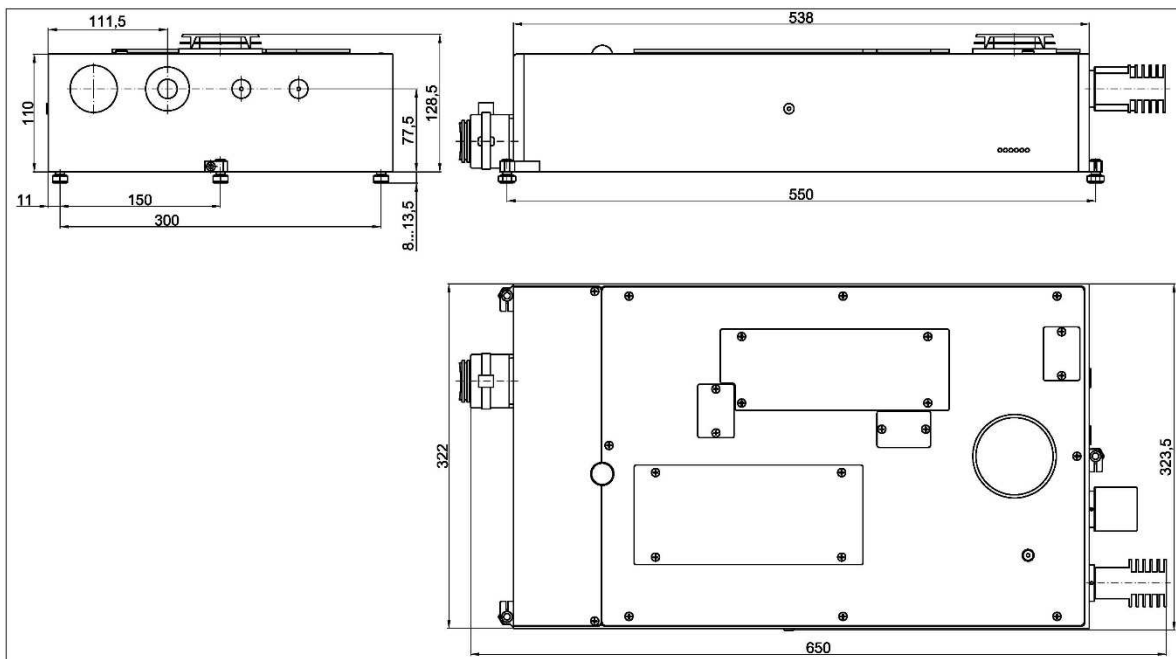
* Specifications are subject to change without notice.

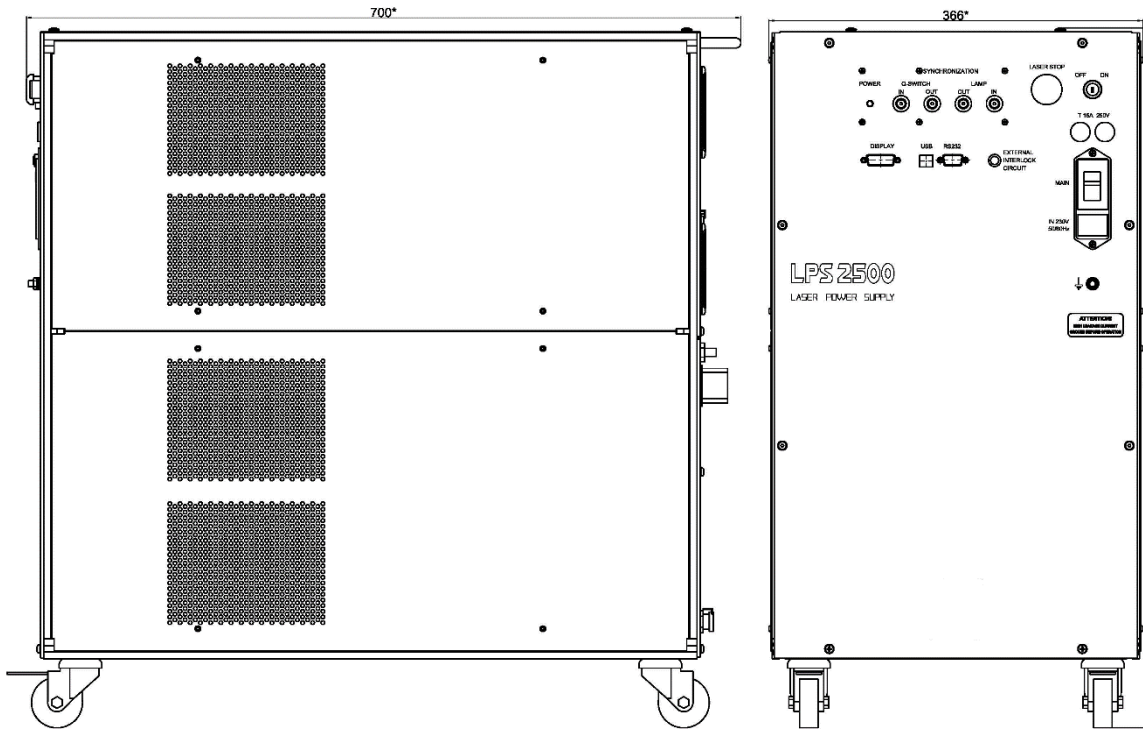
1) With the STLG105 external fifth harmonic generator.

2) At 1064 nm.

3) Without the interferometer.

4) Relative to the Q-Switch driver external trigger pulse.





7. High-Power Pulsed Nd:YAG Lasers Model STLQ-929

Up to 1400mJ @ 1064nm and harmonic generators up to 213nm



FEATURES:

- Oscillator-amplifier configuration
- High pulse energy up to 1.5 J
- Excellent beam quality
- All the harmonics available up to 213 nm
- Compact single-phase power supply
- No external water requirements

The STLQ-929 is a series of compact lamp-pumped Nd:YAG lasers built under the scheme master-oscillator – one-pass amplifier and having uncompromising combination of the main parameters: high output power, exceptional beam quality and minimum laser head and power supply dimensions.

The master oscillator of the STLQ-929 laser series, just as that of the STLQ-529 has ring cavity. The principle of operation of the ring cavity scheme and utilisation of pump chambers with high-efficiency diffuse reflectors provide output laser radiation with homogeneous beam profile and exceptional stability of output energy and spatial radiation parameters.

All the critical components of the laser are thermally stabilised which in combination with vibration-proof design ensures unsurpassed long-term stability of output radiation. The efficient thermostats used in the STLQ-929 ensure warm-up time of less than 10 min.

To reduce your time expenses on routine service of the STLQ-929 we provided flash lamp life time of more than 30 million pulses and foreseen easy and quick procedure of its replacement.

Closed-loop water-to-air cooling system is integrated into a compact single-phase laser power supply which can be controlled both from PC and via the remote control unit.

Model		STLQ-929A (1064 nm)		STLQ-929A (532 nm)		STLQ-929A (355 nm)		STLQ-929A (266 nm)		STLQ-929A (213 nm)			
PRR, Hz		5	10	5	10	5	10	5	10	5	10		
Output energy, mJ, not less than	1064 nm	1400		1400		1400		1400		1400			
	532 nm	-		800		630		800		630			
	355 nm (HPV) ^{1), 2)}			420		420		-		420		420	
	355 nm ²⁾			390		350		-		390		350	
	266 nm ³⁾			210		190		-		-		-	
	213 nm (HPV) ^{1), 4)}			-		-		-		45		40	
	213 nm ⁴⁾			40		35		-		-		-	
Beam diameter, mm ⁵⁾				≤ 11									
Model		STLQ-929B (1064 nm)		STLQ-929B (532 nm)		STLQ-929B (355 nm)		STLQ-929B (266 nm)		STLQ-929B (213 nm)			
PRR, Hz		5	10	5	10	5	10	5	10	5	10		
Output energy, mJ, not less than	1064 nm	1000		1000		1000		1000		1000			
	532 nm	-		600		450		600		450			
	355 nm (HPV) ^{1), 2)}			300		300		-		300		300	
	355 nm ²⁾			280		250		-		280		250	
	266 nm ³⁾			200		180		-		-		-	
	213 nm (HPV) ^{1), 4)}			-		-		-		45		40	
	213 nm ⁴⁾			40		35		-		-		-	
Beam diameter, mm ⁵⁾				≤ 10									
Model		For all the Models											
Pulse-to-pulse energy stability, ±% ⁵⁾		< 2.5											
Pulse duration, ns ⁵⁾		10...12											
Divergence, mrad ⁵⁾		≤ 1.5											
Jitter, ns ⁶⁾		±1											
Power consumption, W		≤ 1200											
Cooling system		water-to-air											
Dimensions (LxWxH), mm		Laser head		625 x 220 x 125									
		Power supply		700 x 366 x 693									

* Specifications are subject to change without notice.

1) For

the high-power version at 355 nm.

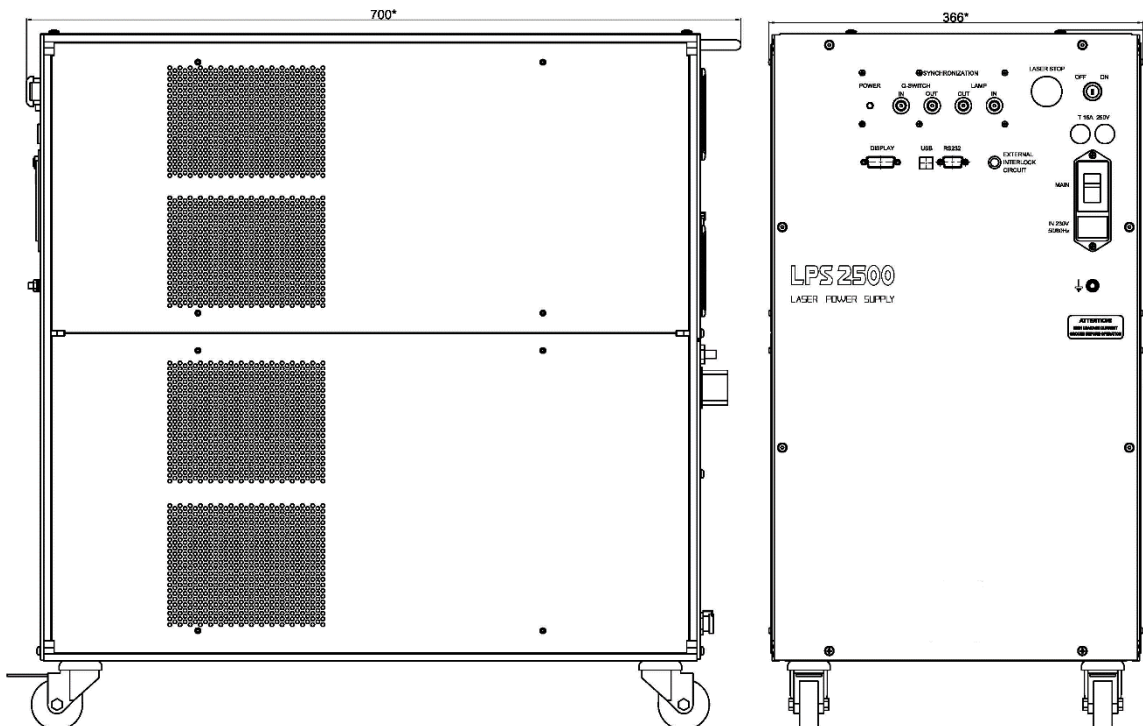
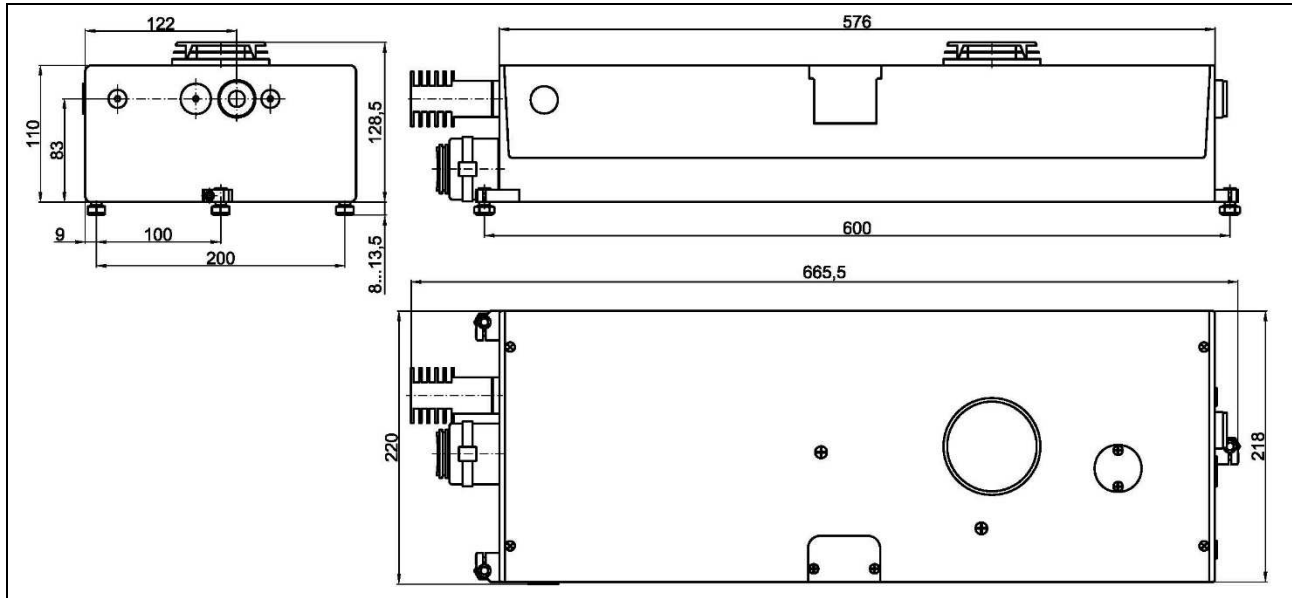
2) With the STLG-103T external third harmonic generator.

3) With the STLG-103F external fourth harmonic generator.

4) With the STLG-105 external fifth harmonic generator.

5) At 1064 nm.

6) Relative to the Q-Switch driver external trigger pulse.



8. High Pulse Energy Air-cooled DPSS Laser Model STQX-500 (1064/532/355/266nm)

We present a new model of completely air-cooled pulsed diode-pumped Nd:YAG laser. The STQX-500 delivers 160mJ at 1064 nm in nanosecond pulses at repetition rates up to 20Hz. The STQX500 laser features long-life laser diode bars and delivers excellent pulse-to-pulse and long-term stability which is ideally suited for use in scientific, industrial, and medical applications. Diode pumping reduces size, improves reliability, and eliminates most maintenance operations. Minimum service costs are conditioned by optical pumping using laser diode bars with more than 109 pulses lifetime. Stability of the parameters and the laser reliability are guaranteed due to dustproof housing design and thermal stabilization of the optical cavity. The possibility of operation in the VIS and UV spectral range thanks to small external harmonic generators will expand your opportunities. Compact laser design and complete air cooling not only simplify application of this device as a stand-alone unit, but also allow to integrate it into any equipment.

- High-power output of 160mJ at 20Hz
- Air cooling and no water required
- Smooth flat-top beam profile
- Vis and UV harmonic generators
- OEM/industrial design for 24/7 operation

- Long diode lifetime over 1 billion shots
- Turn-key operation

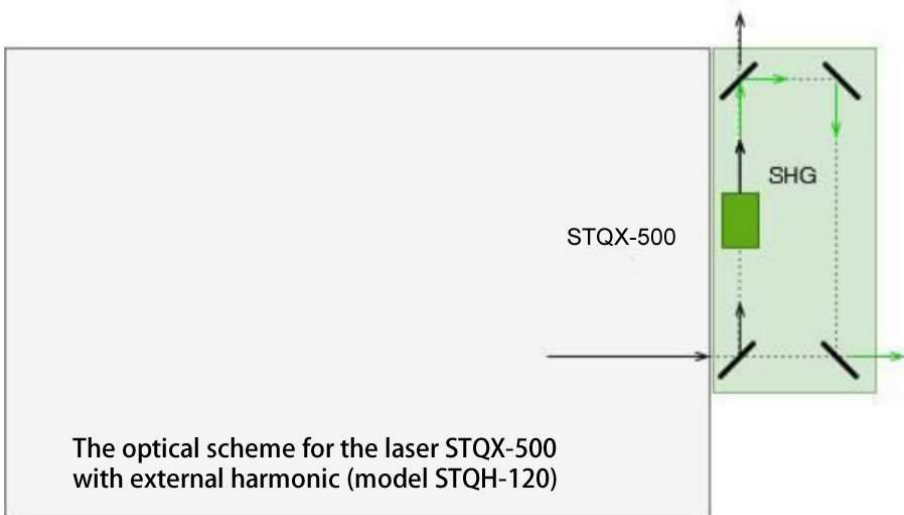
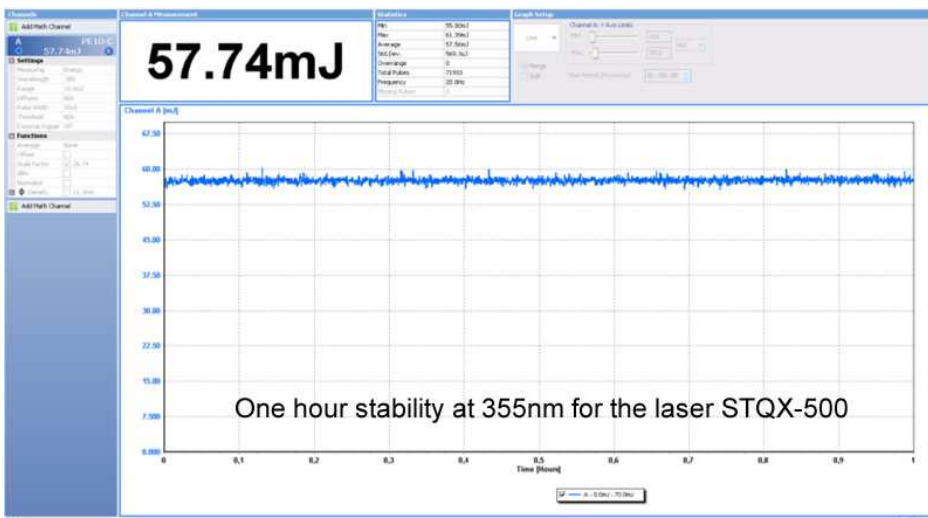
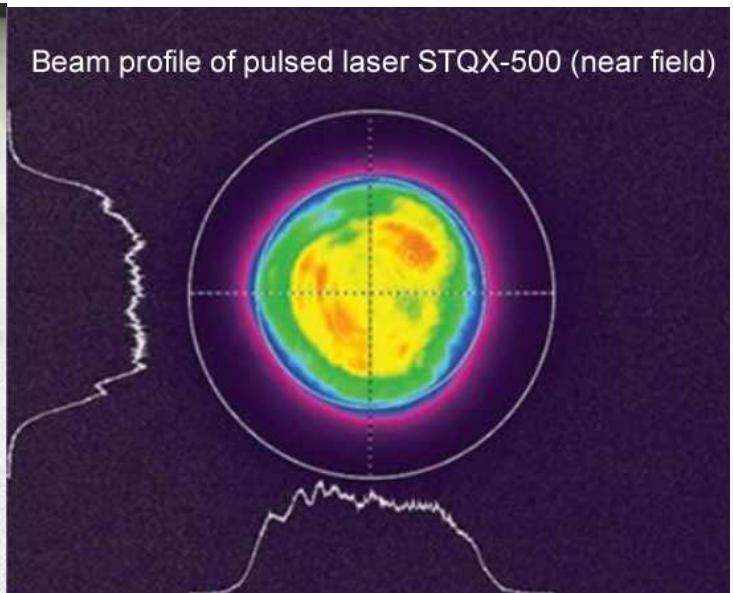
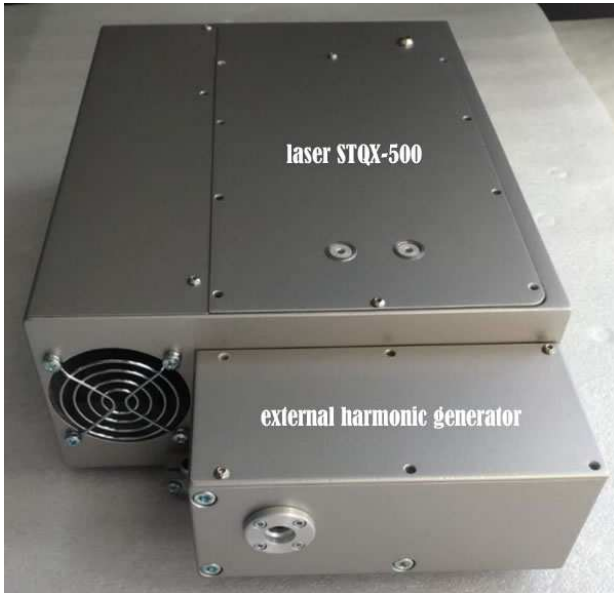


Wavelength, nm	355
Pulse energy, mJ	
-at 1064nm	≥ 160
-at 532nm ¹⁾	≥ 80
-at 355nm ²⁾	≥ 50
-at 266nm ³⁾	≥ 25
Pulse repetition rate ⁴⁾ , Hz	1...20
Pulse energy stability ⁵⁾ (Std.Dev.), %	≤ 1.5
Pulsewidth ⁵⁾ (FWHM), ns	9...10
Beam divergence ⁵⁾ , mrad	≤ 1.5
Beam diameter ⁵⁾ , mm	<5
Jitter (Std.Dev.) ⁶⁾ , ns	≤ 1.0
Electrical service	100...240V, 50/60Hz, ≤500W
Cooling system	Air
Dimensions, mm	
- Laser head and harmonic generators(L×W×H)	375 x 230 x 115
- Power supply unit (W×D×H)	405 x 350 x 150
Environmental requirements	
Room temperature	15-27 °C (air conditioning recommended)
Relative humidity	≤ 60% (non condensing)

- 1) With external third harmonic generator model STQH-120;
- 2) With external third harmonic generator model STQH-130;
- 3) With external fourth harmonic generator model STQH-140;
- 4) You can choose any PRR from 1Hz to 20Hz when placing an order. All parameters are specified for 20 Hz;
- 5) Specified at 1064 nm;
- 6) With respect to external trigger pulse.

The system consists of two modules – the DPSS pulsed laser model STQX-500 (at 1064nm) and removable module for any harmonic generator model STQH (at 532nm, 355nm, 266nm). So, the customer can work either with 1064nm or with any harmonic in depend on applications. The removable harmonic generator module can be fix at STQX-500 output or remove by manual.

Our DPSS lasers do not require visit of engineer for installation procedure due to special technical design that exclude the possible misalignment of the laser's optical scheme. The end user can start to work STQX-500 laser by himself without any troubles. All necessary information for working is presented in the user manual and video guide instruction. Even the specialist without technical skills can start and work with QX500 laser comfortable.



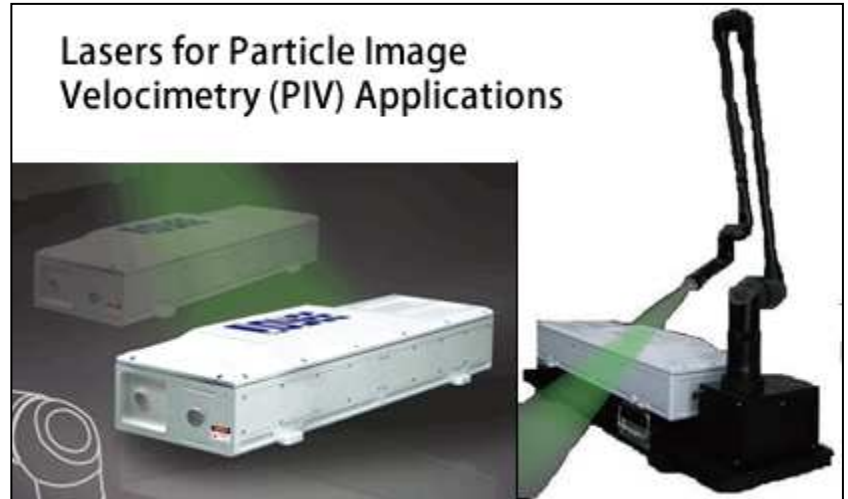
STLT Series EO Q-switched Lasers

1. STLT Series PIV Lasers

These lasers have dual or multiple laser-heads with compact size. They can provide high efficiency and stable green light source for Particle Image Velocimetry (PIV) applications. It is suitable for most liquid experiments and many air-based 2D/3D PIV ones.

Features:

- Very compact and stable design;
- Easy flash lamps replacement;
- Energy can be adjusted from 15mJ to 400 mJ
- Highly flexible design with repetition rate from 1Hz to 15Hz or 1Hz to 30Hz;
- Can provide multiple triggering capabilities, such as internal trigger, external TTL trigger. Control lamps and Q-switch for precise laser pulse timing control.
- Convenient operation, Control by single power supply and equipped with closed-loop cooling system;
- Thermally compensated resonator assures stable operation;



Typical Applications:

- Suitable for liquid experiments;
- Air-based 2D/3D PIV;
- Wind tunnel research;
- Water tunnel research;
- Micro-fluidic measurement;
- Spray or flame research
- Thermally compensated resonator assures stable operation;

Specifications:

Model	STLT-600	STLT-610	STLT-620	STLT-630	STLT-640	STLT-650	STLT-660	STLT-670
Repetition Rate (Hz)	15	30	15	15	15	10	100	200
Pulse Energy(mJ) 532nm	30	30	80	120	200	360	100	50
Energy Stability (RMS)(%)532nm	3	3	4	4	4	4	4	4
Wavelength	532	532	532	532	532	532	532	532
Beam Size	≤4	≤4	≤7	≤7	≤8	≤10	≤7	≤7
Pulse width (ms)	≤10	≤10	≤10	≤10	≤10	≤10	≤10	≤10
Divergency (mrad)	≤3	≤3	≤3	≤3	≤3	≤2	≤4	≤4
Spatial Profile	VRM Mode	VRM Mode	VRM Mode	VRM Mode	VRM Mode	VRM Mode	VRM Mode	VRM Mode
Timing Jitter (ns)	≤2	≤2	≤2	≤2	≤2	≤2	≤2	≤2

Remarks: We also supply the customized lasers, such as four laser beams or more beams products

2. STLT Series High Energy EO Q-switched Nd: YAG Lasers

This series product is compact with a special EO Q-switch. They can provide high efficiency and stable signal pulse energy at 1064nm and the pulse width can be adjusted from 0.5 μ s to 2.0 μ s.

Features:

- Very compact and stable design;
- Easy flash lamps replacement;
- Energy can be adjusted from 15mJ to 400 mJ
- Highly flexible design with repetition rate from 1Hz, 5Hz, 10Hz & 20Hz;
- Can provide multiple triggering capabilities, such as internal trigger, external TTL trigger. Control lamps and Q-switch for precise laser pulse timing control.
- Convenient operation. Controlled by single power supply and equipped with closed- loop water cooling system;
- Thermally compensated resonator assures stable operation.



Typical Applications:

- Burning blaze detected;
- Laser Medical

Repetition Rate	1, 5, 10, 20Hz
Energy	>100mJ @ 1064nm, max. 800mJ
Energy Stability	$\pm < 5\%$
Pulse Width	0.5 - 2.0 μ s
Power Supply	220V 50Hz AC
Cooling System	closed- loop water cooling system

Ordering Information: STLT-xxxx-yyy-zzz, where xxxx means wavelength in nm, yyy means pulse energy in nJ and zzz means pulse repetition rate in Hz.

Remarks: We also supply the customized lasers, such as four laser beams or more beams products

STHE Series EO Q-switched Lasers

1. STHE Series High Energy EO Q-switched Nd: YAG Lasers

The lamp pumped Q-switched laser is a high energy laser with high stability, high conversion efficiency and high quality laser beam. With compact structure, easy installation and convenience to move, there are many options such as double pulse or more impulsive intervals and pulse output range. The system is equipped with adjustable control box and computer interface hand size limit, suitable for space and requirements and other equipment outside applications.

Features:

- Super gauss beam output
- Maximum output power can reach 100 joules
- Industrial design, good reliability and no adjustment
- Manual control box control, also can use computer operation

Typical Applications:

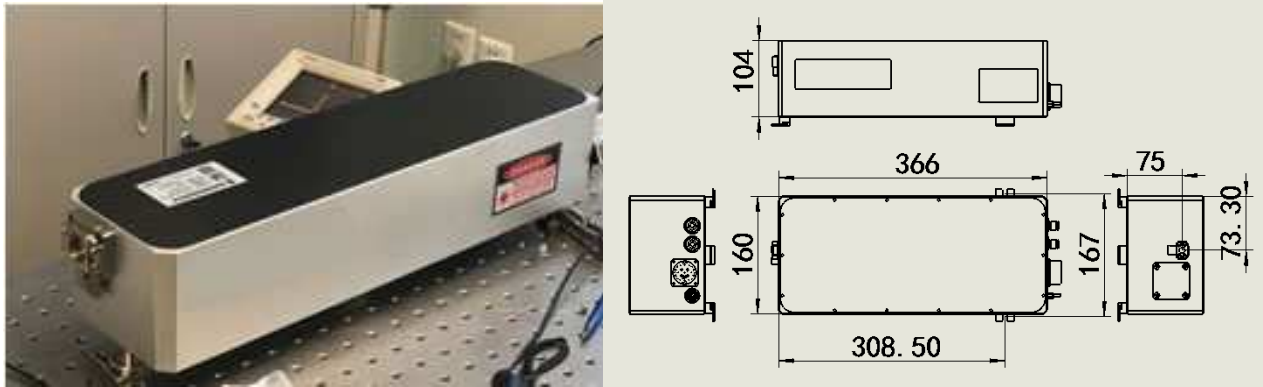
- Laser rangefinder
- Laser radar
- Laser remote sensing
- Strong Field of physics
- Pump OPO lasers, fast, dye laser pump, Raman lasers
- Laser fluorescence inspire
- Plasma measurement
- Optoelectronic detection
- Optoelectronic countermeasures



Specifications:

Model	STHE-1000	STHE-2000	STHE-5000	STHE-10000	STHE-20000	STHE-50000	STHE-100000	
Pulse Width (FWHM)	-A:<10ns, -B:<2ns; -C:<200ps (-S) for single pulse design; (-D) for double pulse design; (-T) for multi pulse design							
Energy (m J) on different Wavelength	1064nm	1000	2000	5000	10,000	20,000	50,000	100,000
	532nm	500	1000	2500	5000	Option	Option	Option
	355nm	200	400	Option	Option	Option	Option	Option
	266nm	80	150	Option	Option	Option	Option	Option
	213nm	15	30	Option	Option	Option	Option	
Beam Mode	-M (TEM ₀₀); -V (VRM)							
Repeat Frequency	3~30KHz		1-5 Hz					
Work method	Pulsed							
Power instability rate	Excel than 3%							
Pump method	Lamp pumped							
Beam Diameter	<10mm		<16mm	<20mm	<25mm	<25mm	<25mm	
Divergence	<0.5mrad				<0.3mrad			
Cooling method	pure water cooling (-W) (or anti-freezing liquid cooling -A)							
Current	AC220V±20V/10A/50Hz±1							
Voltage	1 phase			3 phases				
Marking head Size (mm)	450×100×120 (L×W×H)	650×200×120 (L×W×H)	800×300×120 (L×W×H)	800×300×220 (L×W×H)	800×500×320 (L×W×H)	900×500×420 (L×W×H)	1200×600×420 (L×W×H)	

2. STHE Series 532nm EO Q-switched Lasers



Part number	STHE-532-400
Laser Wavelength	532nm
Pulse Energy	≥400 mJ
Initial Beam Diameter	8 mm
Pulse width	≤8ns
PRF (Variable up to 10 Hz)	1-10 Hz
Single pulse operation	Yes
Divergence @ 532 nm	≤0.5 mrad
Line width	≤2 cm ⁻¹
PC interface	USB/RS232/Ethernet
Power Requirement	220V, 50 Hz AC
Weight with second harmonic	9.6 Kg
Integrated Cooling unit with power supply	< 30 Kg

2. Low-medium Power 1064nm ns Lasers

Our compact lamp-pumped EO Q-switched nano-second laser is a low-medium energy pulsed solid-state laser. It has the features of small size, easy operation, stability. It also has a good reliability due to modular design. Thus these lasers are widely used in LIBS measurement, OPO pumping, laser cleaning etc.



Features:

- Compact in size for easy integration
- Sealing in water and air
- All-in-one design
- Red pilot available upon request
- TEM00/VRM beam mode output
- Controllable via mobile phone or computer

Typical Applications:

- LIBS measurement
- Laser radar
- Laser cleaning
- Pump OPO lasers, fast, dye laser pump, Raman lasers
- Plasma measurement
- Laser communications

Specifications:

Part number: STHE-P-200

Laser wavelength: 1064nm

Pulse energy: $\geq 200\text{mJ}@1064\text{nm}$

Energy stability: $\leq 2\%$

Pulse repetition rate: 1Hz

Pulse width: $\leq 15\text{ns}$

Beam diameter: 6mm~10mm

Beam divergence: $\leq 1\text{mrad}$

Pumping: flashlamp pumping

Warm up time: $< 10\text{min}$

Store temp: $-15\text{-}45^\circ\text{C}$

Environment humidity: 20%-70%

Power input: 230VAC, 50Hz, single phase

Laser head dimension: 375x115x89 mm (LxWxH)

Laser head weight: 7.2kg

Power supply weight: 42kg

