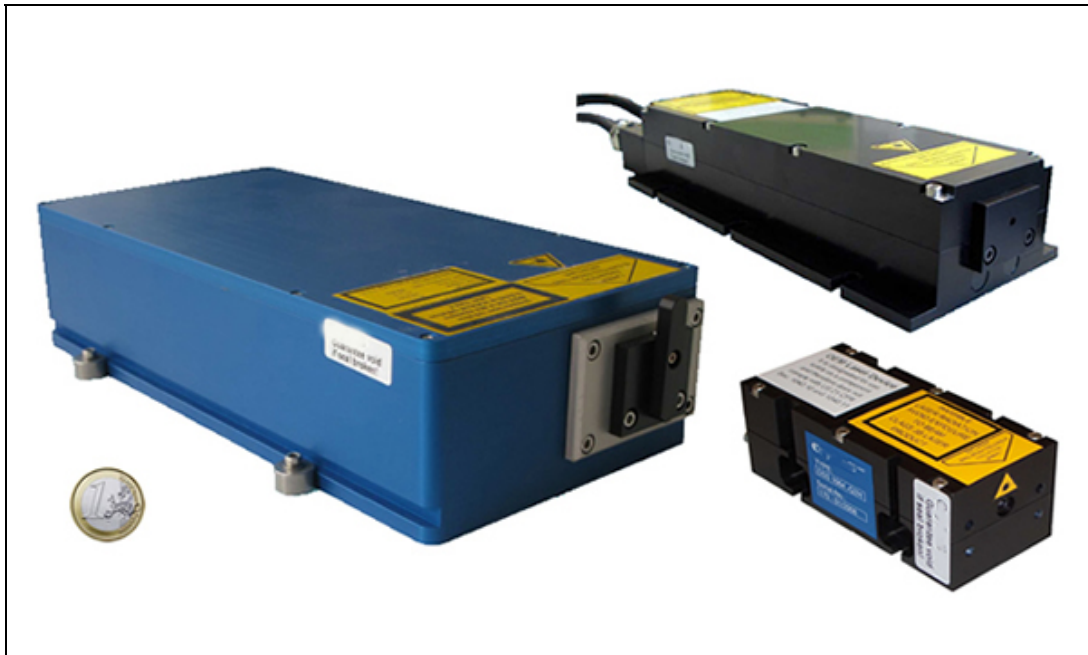


## Passively Q-switched DPSS Lasers



Pulsed lasers from the IR to the deep UV ranges of the spectrum are widely used in biology, biomedicine, chemistry, analytics, micromachining and environmental technology. We provide passively Q-switched laser systems (DPSS) emitting at wavelengths of 213 nm, 266 nm, 355 nm, 532 nm and 1064 nm with excellent beam quality.

### Features

- User friendly
- Air-cooled
- Compact/small footprint
- Short pulsed
- External triggering
- Pulse-to-pulse stability
- Output energy stability
- Single pulse operation

Wavelength nm	Part no.	Pulse energy	Repetition rate	Pulse width ns
213	SFQSS-213-Q	Up to 2.5uJ	Up to 20kHz	Up to 1.0ns
213	SFQSS-213-50	Up to 50uJ	Up to 60Hz	Up to 1.3ns
213	SeMOPA-213-20	Up to 20uJ	Up to 1kHz	Up to 1.0ns
266	SFQSS-266-Q	Up to 12uJ	Up to 20kHz	Up to 1.0ns
266	SFQSS-266-50	Up to 50uJ	Up to 100Hz	Up to 1.3ns
266	SFQSS-266-200	Up to 200uJ	Up to 60Hz	Up to 1.5ns
266	SMOPA-266-40	Up to 40uJ	Up to 1kHz	Up to 1.0ns
266	SMOPA-266-50	Up to 50uJ	Up to 1kHz	Up to 1.0ns
266	SMOPA-266-200	Up to 15uJ	Up to 20kHz	Up to 1.0ns
355	SFTSS-355-Q	Up to 42uJ	Up to 20kHz	Up to 1.4ns
355	SFTSS-355-50	Up to 70uJ	Up to 100Hz	Up to 1.3ns
355	SFTSS-355-300	Up to 300uJ	Up to 80Hz	Up to 1.7ns
355	SMOPA-355-100	Up to 300uJ	Up to 1kHz	Up to 1.3ns
355	SMOPA-355-200	Up to 200uJ	Up to 1kHz	Up to 1.1ns
355	SMOPA-355-500	Up to 35uJ	Up to 20kHz	Up to 1.1ns
532	SFDSS-532-Q	Up to 42uJ	Up to 20kHz	Up to 1.3ns
532	SFDSS-532-150	Up to 150uJ	Up to 100Hz	Up to 1.5ns
532	SFDSS-532-1000	Up to 1000uJ	Up to 80Hz	Up to 1.8ns
532	SMOPA-532-200	Up to 200uJ	Up to 1kHz	Up to 1.5ns

532	SMOPA-532-250	Up to 250uJ	Up to 1kHz	Up to 1.2ns
532	SMOPA-532-700	Up to 48uJ	Up to 20kHz	Up to 1.3ns
1064	SDSS-1064-Q	Up to 90uJ	Up to 20kHz	Up to 1.5ns
1064	SDSS-1064-450	Up to 450uJ	Up to 100Hz	Up to 2.0ns
1064	SDSS-1064-3000	Up to 2500uJ	Up to 80Hz	Up to 2.5ns
1064	SMOPA-1064-650	Up to 650uJ	Up to 1kHz	Up to 1.4ns
1064	SMOPA-1064-2000	Up to 130uJ	Up to 20kHz	Up to 1.5ns

## SFQSS 213-Q4 Series Pulsed YAG Lasers

We provide passively Q-switched laser systems (DPSS) emitting at wavelengths of 213nm, 266nm, 355nm, 532nm, and 1064nm with excellent beam quality, which are widely used in various applications, such as biology, biomedicine, chemistry, and analytics.

### Features:

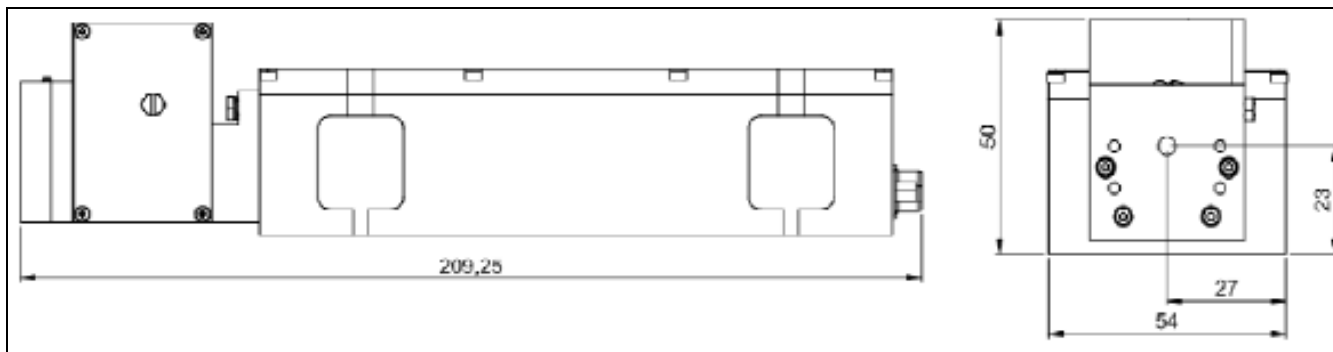
- Pulsed  $\leq 1.0$ ns
- Pulse energy  $>2.5\mu\text{J}$  @ 200Hz
- Repetition rate up to 1kHz
- External and internal trigger mode



### Specifications:

Model	SFQSS213-Q4	SFQSS213-Q4_1kHz
Wavelength	213 nm	
Pulse energy	$> 2.5 \mu\text{J}$ @ 200 Hz	$> 1.5 \mu\text{J}$ @ 1 kHz
Peak power	$> 2.5 \text{ kW}$ @ 200 Hz	$> 1.5 \text{ kW}$ @ 1 kHz
Max pulse repetition rate	200 Hz	1 kHz
Pulse width (FWHM)	$\leq 1.0$ ns	
Polarization ratio	$> 100:1$ vertical	
Power stability	$< \pm 5\%$	
Laser classification	4 / IV	
Spatial mode	TEM00	
Beam divergence (full angle)	$< 2.5$ mrad	
Beam diameter at output plane	$400 \pm 200 \mu\text{m}$	$400 \pm 200 \mu\text{m}$
Power consumption mean (max.)	15 W (40 W)	20 W (70 W)
Operating voltage (OEM)	12 V DC	
Line voltage (with AC-DC adapter)	90 - 265 V AC (50 - 60 Hz)	
Marking	CE	
Communication interface	RS 232, USB External Trigger (TTL, rising edge) 1Hz - max. repetition rate Interface for TTL-control and power monitor	
Warm-up time	$< 5$ min	
Operating temperature	18 - 38 °C	
Dimensions laser head	209.25 x 54 x 50 mm	
Dimensions controller STAND ALONE	174 x 115 x 64 mm	
Dimensions controller OEM	174 x 130 x 35 mm	
Options	Stand Alone System (incl. key-switch, heat-sink, manual shutter; CDRH compliant) Manual shutter or Electrical Beam Blocker	

### Dimensions:



## SFQSS 213-50 Pulsed YAG Lasers

We provide passively Q-switched laser systems (DPSS) emitting at wavelengths of 213nm, 266nm, 355nm, 532nm, and 1064nm with excellent beam quality, which are widely used in various applications, such as biology, biomedicine, chemistry, and analytics.

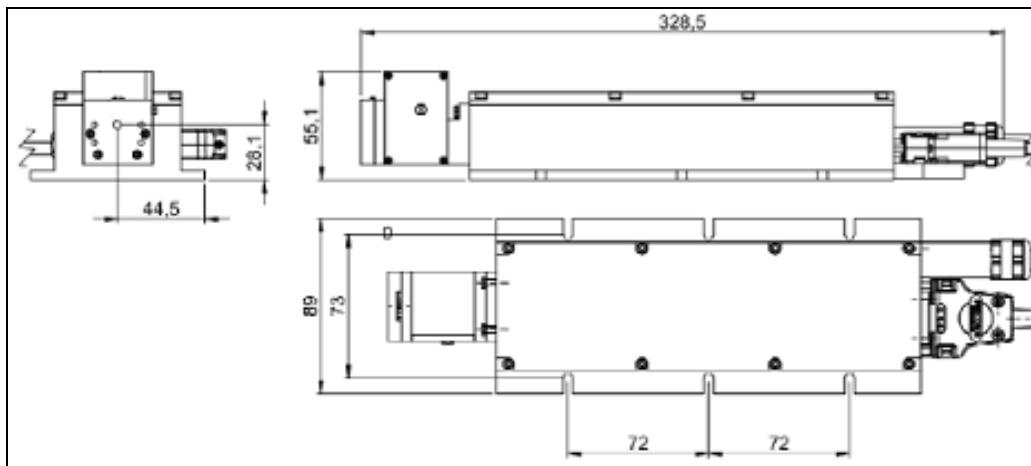
### Features:

- Single pulse
- Pulsed  $\leq 1.3\text{ns}$
- Repetition rate 1-60 Hz
- Pulse energy  $> 50\mu\text{J}$



### Specifications:

Model	SFQSS213-50
Wavelength	213 nm
Spatial Mode	TEM00
M <sup>2</sup>	< 1.5
Beam Divergence (full angle)	< 3.0 mrad
Beam Ellipticity	< 2:1
Beam Diameter	450 ± 150 μm (at laser exit)
Peak Power	40 kW @ 1 - 60 Hz
Pulse Energy	> 50 μJ @ 1 - 60 Hz
Pulse Repetition Rate (with external trigger)	1 - 60 Hz
Pulse Width (FWHM)	< 1.3 ns
Polarization Ratio	> 100:1, horizontal
Long Term Pulse Energy Stability (6 hrs)	< ± 5 %
Pulse-To-Pulse Stability	< 2% rms (of pulse energy)
Laser Classification	4 / IV
Residual 266nm, 532nm, 1064nm Emission	< 0.7 μJ of output pulse energy
Optical Output	Free Beam
Electrical Power Consumption	< 90 W
Line Voltage	90 - 265 V AC (50-60 Hz) or 24 V DC
Interface	RS 232, USB
Warm-up Time	< 10 min
Operating Temperature	18 - 38 °C
Laser Head Size	273 x 65 x 55 mm (core dimensions)
Dimension laser head	328.5 x 89 x 55.1mm
Dimension OEM controller	166 x 129.8 x 105mm
Options	Manual Shutter or Electrical Beam Blocker, External Telescope (e.g. M=5), Stand alone system (CDRH compliant; incl. key switch, heat sink, manual beam shutter)



## SFQSS 266-Q Series Pulsed YAG Lasers

We provide passively Q-switched laser systems (DPSS) emitting at wavelengths of 213nm, 266nm, 355nm, 532nm, and 1064nm with excellent beam quality, which are widely used in various applications, such as biology, biomedicine, chemistry, and analytics.

### Features:

- Pulsed  $\leq 1.0$ ns
- Pulse energy  $> 1.5\mu\text{J}$  @ 200Hz
- Repetition rate up to 5kHz
- External and internal trigger mode
- Free beam

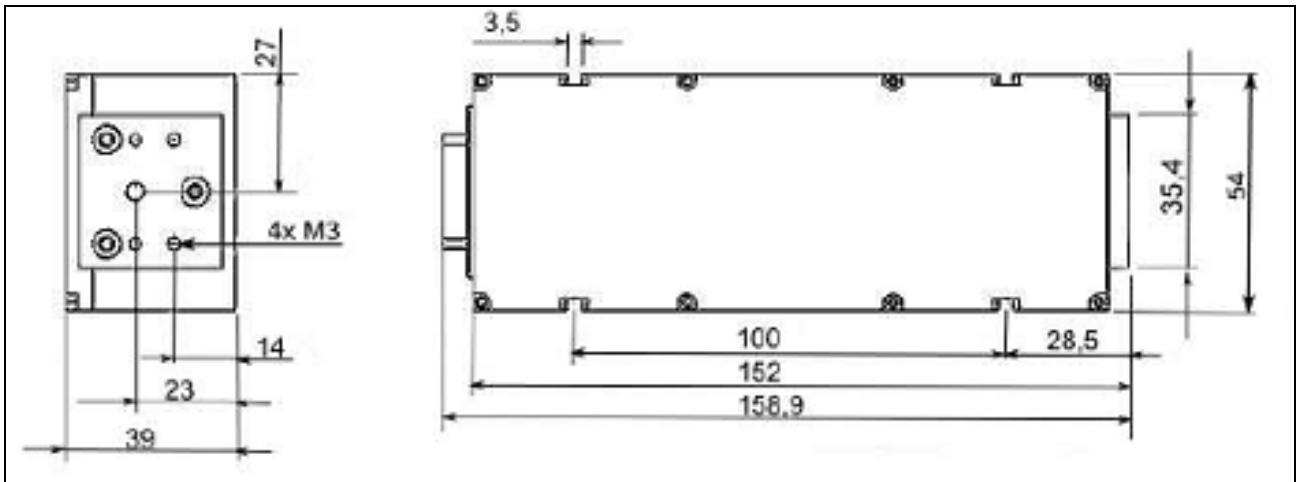


### Specifications:

Model	SFQSS266-Q1	SFQSS266-Q2
Wavelength	266 nm	
Pulse energy	$> 0.3 \mu\text{J}$ @ 5 kHz	$> 1.25 \mu\text{J}$ @ 1 kHz
Peak power	$> 0.3 \text{ kW}$ @ 5 kHz	$> 1.25 \text{ kW}$ @ 1 kHz
Max pulse repetition rate	5 kHz	2.5 kHz
Pulse width (FWHM)	$\leq 1.0$ ns	
Polarization ratio	$> 100:1$ vertical	
Power stability	$< \pm 5$	
Laser classification	4 / IV	
Spatial Mode	TEM00	
Beam Divergence (full angle)	$< 2.0$ mrad	
Beam Diameter at Output Plane	$850 \pm 150 \mu\text{m}$	$850 \pm 150 \mu\text{m}$
Power Consumption mean (max.)	15 W (40 W)	20 W (70 W)
Operating Voltage (OEM)	12 V DC	
Line Voltage (with AC-DC adapter)	90 - 240 V AC (50 - 60 Hz)	
Marking	CE	
Communication interface	RS 232, USB External Trigger (TTL, rising edge) 1Hz - max. repetition rate Service interface for TTL-control and power monitor	
Warm-up time	$< 5$ min	
Operating Temperature	18 - 38 °C	
Options	Stand alone system (incl. key-switch, heat-sink and manual shutter; CDRH compliant), Synchronization Signal Output (rise time $< 2$ ns), Manual shutter or electrical beam blocker, External telescope (e.g. M=3), Manual or electrical driven wavelength switch 266 / 532nm, Manual or electrical attenuator,	

	Upgrade to 8 mW	
Dimensions Laser head	158.9 x 54 x 39 mm	
Dimensions Controller STAND ALONE	134 x 115 x 64 mm	
Dimensions Controller OEM	134 x 130 x 35 mm	

Dimensions:



## SFQSS 266-Q4 Series Pulsed YAG Lasers

We provide passively Q-switched laser systems (DPSS) emitting at wavelengths of 213nm, 266nm, 355nm, 532nm, and 1064nm with excellent beam quality, which are widely used in various applications, such as biology, biomedicine, chemistry, and analytics.

Features:

- Pulsed  $\leq 1.0$ ns
- Pulse energy  $> 18\mu\text{J}$  @ 200Hz
- Repetition rate up to 1kHz
- External and internal trigger mode



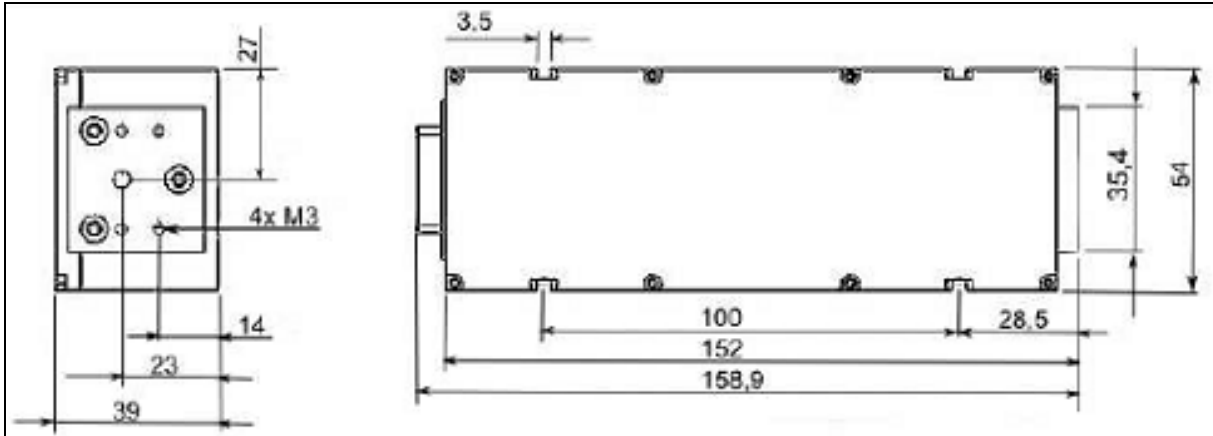
Specifications:

Model	SFQSS266-Q4	SFQSS266-Q4_1kHz
Wavelength	266 nm	
Pulse energy	$> 18 \mu\text{J}$ @ 200 Hz	$> 12 \mu\text{J}$ @ 1 kHz
Peak power	$> 18 \text{ kW}$ @ 200 HZ	$> 12 \text{ kW}$ @ 1 kHz
Max pulse repetition rate	200 Hz	1 kHz
Pulse width (FWHM)	$\leq 1.0$ ns	
Polarization ratio	$> 100:1$ vertical	
Power stability	$< 2\%$ rms	
Laser classification	4 / IV	
Spatial Mode	TEM00	
Beam Divergence (full angle)	$< 1.5$ mrad	
Beam Diameter at Output Plane	$1.0 \pm 0.4$ mm	$1.0 \pm 0.4$ mm
Power Consumption mean (max.)	40 (70 W)	40 (70 W)
Operating Voltage (OEM)	12 V DC	
Line Voltage (with AC-DC adapter)	90 - 265 V AC (50 - 60 Hz)	
Marking	CE	
Communication interface	RS 232, USB External Trigger (TTL, rising edge) 1 Hz - max. repetition rate Interface for TTL-control and power monitor	
Warm-up time	$< 5$ min	
Operating Temperature	18 - 38 °C	
Options	Stand Alone System (incl. key-switch, heat-sink, manual shutter; CDRH compliant), Synchronization Signal Output (rise time $< 2$ ns),	



	Manual Shutter or Electrical Beam Blocker, Manual or Electrical driven Wavelength Switch 266 / 532 nm, External Telescope (e.g. M=5), Manual or Electrical Attenuator
Dimensions Laser head	158.9 x 54 x 39 mm
Dimensions Controller STAND ALONE	174 x 115 x 64 mm
Dimensions Controller OEM	174 x 130 x 35 mm

Dimensions:

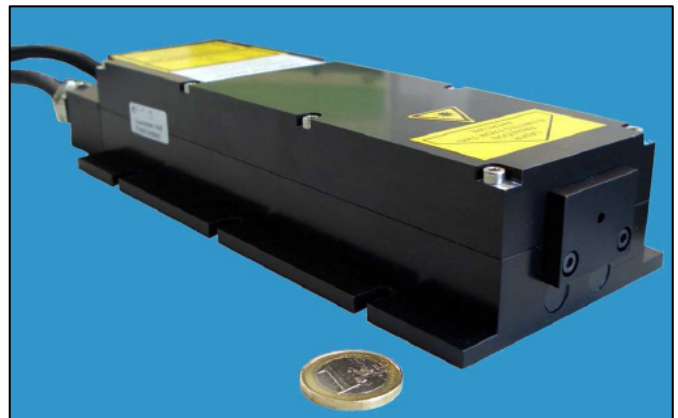


## SFQSS 266-50 Pulsed YAG Lasers

We provide passively Q-switched laser systems (DPSS) emitting at wavelengths of 213nm, 266nm, 355nm, 532nm, and 1064nm with excellent beam quality, which are widely used in various applications, such as biology, biomedicine, chemistry, and analytics.

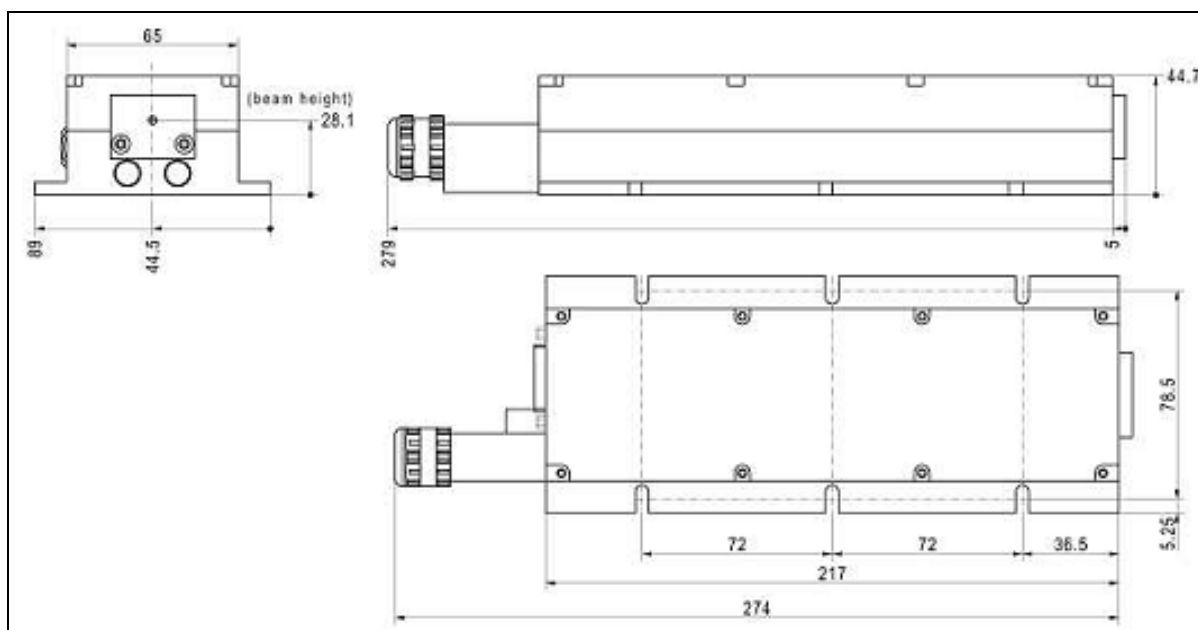
Features:

- Single pulse
- Pulsed 0.9-1.3ns
- Repetition rate 1-100Hz (optional up to 1kHz)
- Pulse energy >50uJ



Model	SFQSS266-50
Wavelength	266 nm
Spatial Mode	TEM00
M <sup>2</sup>	< 1.5
Beam Divergence (full angle)	< 3.0 mrad
Beam Ellipticity	< 1.5:1
Waist Diameter	800±200µm (located at about 110mm inside the laser head)
Beam Diameter	800 ± 200 µm (at laser exit)
Peak Power	45 kW - 65 kW @ 1-100 Hz
Pulse Energy	> 50 µJ @ 1 - 100 Hz (> 15µJ @ 1kHz Option)
Pulse Repetition Rate (external trigger)	1 - 100 Hz
Pulse Width (FWHM)	0.9 - 1.3 ns
Polarization Ratio	> 100:1, vertical
Long Term Pulse Energy Stability (6 hrs)	< ± 2 %
Pulse-To-Pulse Stability	< 1% rms (of pulse energy)
Laser Classification	4 / IV
Residual 532nm Emission	< 0.5% of output pulse energy
Optical Output	Free Beam
Electrical Power Consumption	< 70 W
Line Voltage	90 - 265 V AC (50-60 Hz) or 24 V DC

Interface	RS 232, USB
Warm-up Time	< 10 min
Operating Temperature	18 - 38 °C
Laser Head Size	217 x 65 x 45 mm (core dimensions)
Dimension laser head	279 x 89 x 44.7mm
Dimension OEM controller	166 x 129.8 x 105mm
Options	Synchronization signal output (rise time < 2 ns); Manual shutter or electrical beam blocker; Manual or electrical driven wavelength switch 266/532nm; Upgrade to 1 kHz repetition rate (parameters on request); External telescope (e.g. M=5); Manual or electrical attenuator; Stand Alone System (incl. key-switch, heat-sink, manual shutter; CDRH compliant)

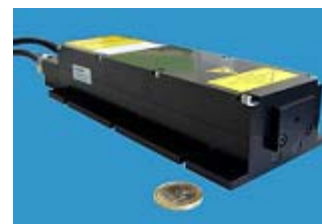


## SFQSS 266-200 Pulsed YAG Lasers

We provide passively Q-switched laser systems (DPSS) emitting at wavelengths of 213nm, 266nm, 355nm, 532nm, and 1064nm with excellent beam quality, which are widely used in various applications, such as biology, biomedicine, chemistry, and analytics.

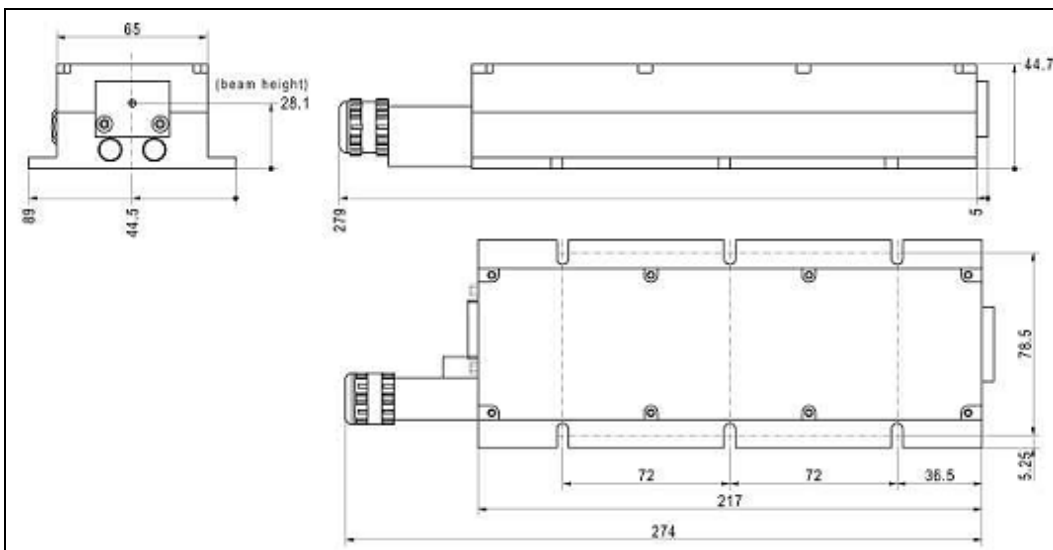
### Features:

- Single pulse
- Pulsed <1.5ns
- Repetition rate 1-60Hz
- Pulse energy >200uJ



Model	SFQSS266-200
Wavelength	266 nm
Beam Divergence (full angle)	< 3.0 mrad
Beam Ellipticity	< 2:1
Waist Diameter	500±150µm (located at about 110mm inside the laser head)
Beam Diameter	800 ± 300 µm (at laser exit)
Peak Power	> 130 kW @ 20 Hz
Pulse Energy	> 200 µJ @ 20 Hz
Pulse Repetition Rate (external trigger)	1 - 60 Hz
Pulse Width (FWHM)	1.5 ns
Polarization Ratio	> 100:1, vertical
Long Term Pulse Energy Stability (6 hrs)	< ± 5 %
Laser Classification	4 / IV

Residual 532nm Emission	< 0.5% of output pulse energy
Optical Output	Free Beam
Electrical Power Consumption	< 90 W
Line Voltage	90 - 265 V AC (50-60 Hz) or 24 V DC
Interface	RS 232, USB
Warm-up Time	< 10 min
Operating Temperature	18 - 35 °C
Laser Head Size	217 x 65 x 45 mm (core dimensions)
Dimension laser head	279 x 89 x 44.7mm
Dimension OEM controller	166 x 129.8 x 105mm
Options	Synchronization signal output (rise time < 2 ns); Manual shutter or electrical beam blocker; Manual or electrical driven wavelength switch 266 / 532 nm; External telescope (e.g. M=5); Manual or electrical attenuator; Stand Alone System (incl. key-switch, heat-sink, manual shutter; CDRH compliant)



## SMOPA 266 Pulsed YAG Lasers

We provide passively Q-switched laser systems (DPSS) emitting at wavelengths of 213nm, 266nm, 355nm, 532nm, and 1064nm with excellent beam quality, which are widely used in various applications, such as biology, biomedicine, chemistry, and analytics.

### Features:

- Very short pulses
- External triggering
- Single pulse operation
- Excellent beam quality
- High pulse-to-pulse stability
- Good output energy stability

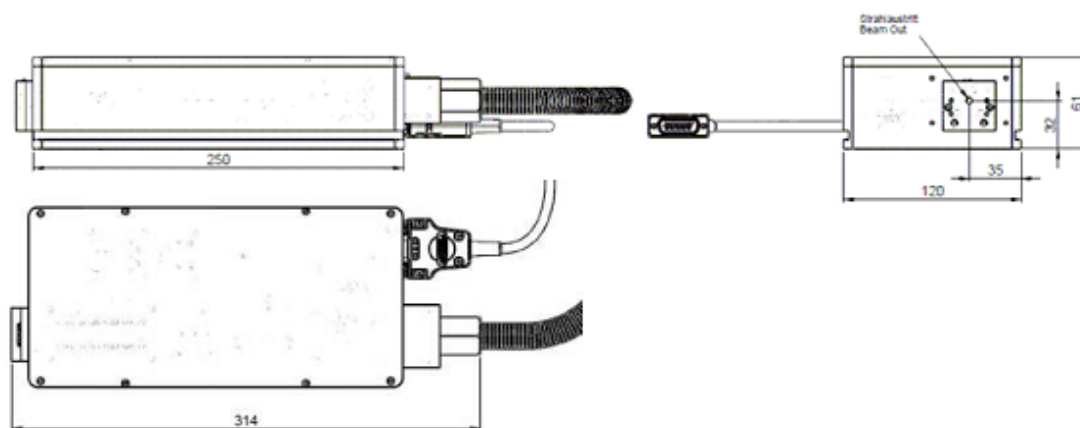


Model	SMOPA266-50(Peak power)	SMOPA266-200mW (Average power)
Wavelength	266 nm	266 nm
Average power	-	> 200 mW @ 15 kHz
Peak Power	> 50 kW @ 1000 Hz	-
Pulse Energy	> 50 μJ @ 1000 Hz	> 15 μJ @ 15 kHz
Beam Divergence	< 2.0 mrad(full angle)	< 2.0 mrad(full angle)
Beam Ellipticity	< 2:1	< 2:1
Beam Diameter	1.0 ± 0.3 mm (at laser exit)	1.0 ± 0.3 mm (at laser exit)
Spatial Mode	TEM00	TEM00



Pulse Repetition Rate	1 - 1000 Hz(with external trigger)	1 Hz - 20 kHz(with external trigger)
Pulse Width (FWHM)	1.0 ns	1.0 ns
Polarization Ratio	> 100:1, vertical	> 100:1, vertical
Pulse Energy Stability	< ± 3 % (over 8 hrs)	< ± 3 % @ 15kHz (over 8 hrs)
Pulse-to-Pulse Energy Stability (over 60 sec)	< ± 3 % (<1% rms)	< ± 8 % (<2.5% rms)
Laser Classification	4 / IV	4 / IV
Optical Output	Free Beam	Free Beam
Power Consumption	< 150 W	< 250 W
Line Voltage	90 - 265 V AC (50-60 Hz)	90 - 265 V AC (50-60 Hz)
Interface	USB, SMB connector for 24 V DC output, BNC connector for external triggering (TTL)	
Warm-up Time	< 10 min	< 10 min
Operating Temp	18 - 38 °C	18 - 38 °C
Laser Head Size	61 x 120 x 314 mm (H x W x L)	61 x 120 x 314 mm (H x W x L)
Stand-Alone Unit Size	184 x 343 x 375 mm (H x W x L)	184 x 343 x 375 mm (H x W x L)
Options	Multimode fiber coupling; Synchronization signal output (rise time < 2 ns); Electrical or manual wavelength switch (266nm– 532nm) or electrical beam blocker; External telescope (beam expander)	External telescope (beam expander); Manual attenuator; Synchronization signal output (rise time < 2 ns); Electrical or manual wavelength switch (266nm – 532nm) or electrical beam blocker

Dimensions:



## SFTSS 355-Q Series Pulsed YAG Lasers

We provide passively Q-switched laser systems (DPSS) emitting at wavelengths of 213nm, 266nm, 355nm, 532nm, and 1064nm with excellent beam quality, which are widely used in various applications, such as biology, biomedicine, chemistry, and analytics.

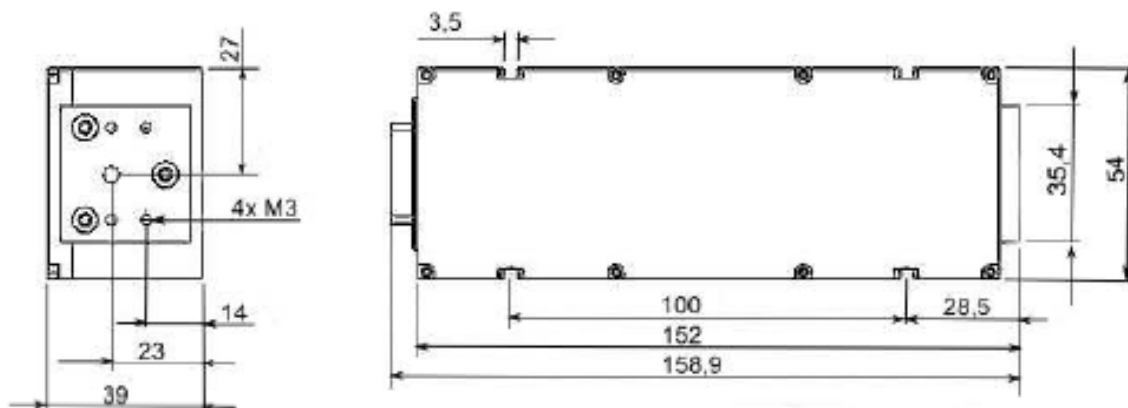
### Features:

- Pulsed  $\leq 1.1$  ns
- Pulse energy  $> 25$   $\mu$ J
- Repetition rate up to 20kHz
- External and internal trigger mode
- Free beam or fiber coupling



Model	SFTSS355-Q1	SFTSS355-Q2	SFTSS355-Q3
Wavelength	355 nm		
Pulse energy	$> 0.3 \mu\text{J @ 15 kHz}$	$> 3 \mu\text{J @ 10 kHz}$	$> 15 \mu\text{J @ 1 kHz}$
Peak power	$> 0.25 \text{ kW @ 15 kHz}$	$> 2.5 \text{ kW @ 10 kHz}$	$> 13 \text{ kW @ 1 kHz}$
Max pulse repetition rate	20 kHz	10 kHz	2.5 kHz
Pulse width (FWHM)	$\leq 1.1$ ns		
Polarization ratio	$> 100:1$ vertical		
Power stability	$< \pm 5 \%$	$< \pm 3 \%$	$< \pm 3 \%$
Laser classification	3B / IIIb		
Spatial Mode	TEM00		
Beam Divergence (full angle)	$< 3$ mrad	$< 3.5$ mrad	$< 4$ mrad
Beam Diameter at Output Plane	$190 \pm 50 \mu\text{m}$	$200 \pm 50 \mu\text{m}$	$200 \pm 50 \mu\text{m}$
Power Consumption mean (max.)	15 W (40 W)	17 W (40 W)	20 W (70 W)
Operating Voltage (OEM)	12 V DC		
Line voltage (AC-DC adapter)	90 - 240 V AC (50 - 60 Hz)		
Marking	CE		
Communication interface	RS 232, USB, External Trigger (TTL, rising edge) 1 Hz - max. repetition rate, Interface for TTL-control and power monitor		
Warm-up time	$< 5$ min		
Operating Temperature	18 - 38 °C		
Options	Stand Alone System (incl. key-switch, heat-sink, manual shutter; CDRH compliant), Synchronization Signal Output (rise time $< 2$ ns), Manual Shutter or Electrical Beam Blocker, Manual or Electrical driven Wavelength Switch 266 / 532 nm, External Telescope (e.g. M=5), Manual or Electrical Attenuator		
Dimensions Laser head	158.9 x 54 x 39 mm		
Dimensions Controller STAND ALONE	Q1,Q2: 134 x 115 x 64 mm; Q3: 174 x 115 x 64 mm		
Dimensions Controller OEM	Q1, Q2: 134 x 130 x 35 mm; Q3: 174 x 130 x 35 mm		

### Dimensions:



## SFTSS 355-Q4 Series Pulsed YAG Lasers

We provide passively Q-switched laser systems (DPSS) emitting at wavelengths of 213nm, 266nm, 355nm, 532nm, and 1064nm with excellent beam quality, which are widely used in various applications, such as biology, biomedicine, chemistry, and analytics.

### Features:

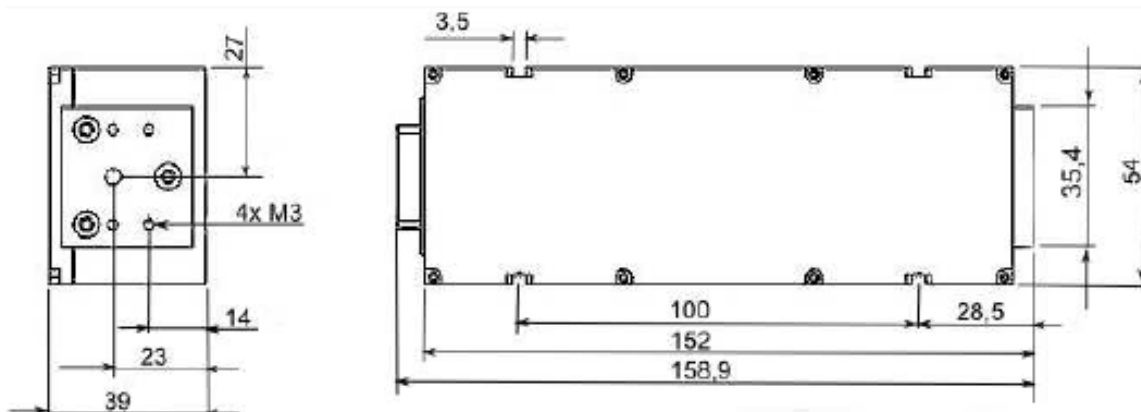
- Pulsed  $\leq 1.4$ ns
- Pulse energy  $>60\mu\text{J}$  @ 200Hz
- Repetition rate up to 1kHz
- External and internal trigger mode
- Free beam or Fiber coupling



### Specifications:

Model	SFTSS355-Q4	SFTSS355-Q4_1kHz
Wavelength	355 nm	
Pulse energy	$> 60 \mu\text{J}$ @ 200 Hz	$> 42 \mu\text{J}$ @ 1 kHz
Peak power	$> 42 \text{ kW}$ @ 200 HZ	$> 30 \text{ kW}$ @ 1 kHz
Max pulse repetition rate	200 Hz	1 kHz
Pulse width (FWHM)	$\leq 1.4$ ns	
Polarization ratio	$> 100:1$ vertical	
Power stability	$< 2\%$ rms	
Laser classification	3B / IIIb	
Spatial Mode	TEM00	
Beam divergence (full angle)	$< 4$ mrad	
Beam diameter at output plane	$300 \pm 80 \mu\text{m}$	$300 \pm 80 \mu\text{m}$
Power consumption mean (max.)	40 (70 W)	40 (70 W)
Operating voltage (OEM)	12 V DC	
Line voltage (with AC-DC adapter)	90 - 265 V AC (50 - 60 Hz)	
Marking	CE	
Communication interface	RS 232, USB External Trigger (TTL, rising edge) 1 Hz - max. repetition rate Interface for TTL-control and power monitor	
Warm-up time	$< 5$ min	
Operating temperature	18 - 38 °C	
Options	Stand Alone System (incl. key-switch, heat-sink, manual shutter; CDRH compliant), Synchronization Signal Output (rise time $< 2$ ns), Fiber Coupling for fiber with core diameter $> 100 \mu\text{m}$ , Manual Shutter or Electrical Beam Blocker, Manual or Electrical driven Wavelength Switch 266 / 532 nm, External Telescope (e.g. M=5), Manual or Electrical Attenuator	
Dimensions laser head	158.9 x 54 x 39 mm	
Dimensions controller STAND ALONE	174 x 115 x 64 mm	
Dimensions controller OEM	174 x 130 x 35 mm	

### Dimensions:

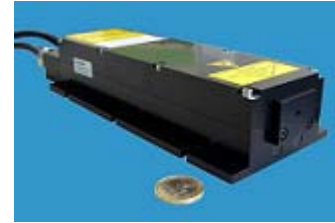


## SFTSS 355-50 Pulsed YAG Lasers

We provide passively Q-switched laser systems (DPSS) emitting at wavelengths of 213nm, 266nm, 355nm, 532nm, and 1064nm with excellent beam quality, which are widely used in various applications, such as biology, biomedicine, chemistry, and analytics.

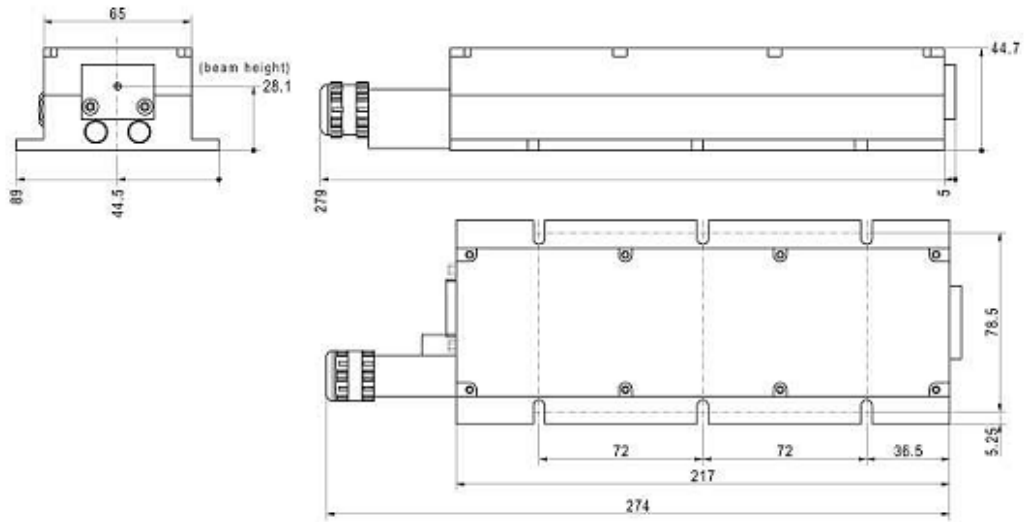
**Features:**

- Single pulse
- Pulsed 0.9-1.3ns
- Repetition rate 1-100Hz (optional up to 1kHz)
- Pulse energy >70uJ

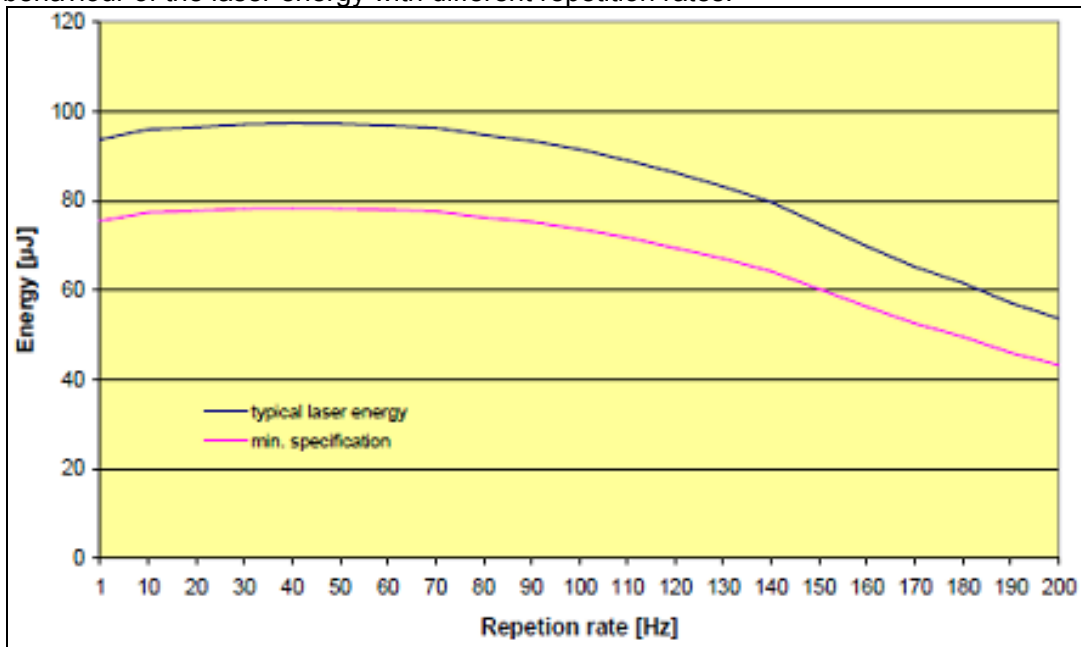


Model	SFTSS355-50
Wavelength	355 nm
Spatial Mode	TEM00
M <sup>2</sup>	< 1.5
Beam Divergence (full angle)	< 3.5 mrad
Beam Ellipticity	< 2:1
Waist Diameter	280±80µm (located at about 110mm inside the laser head)
Beam Diameter	450 ± 150 µm (at laser exit)
Peak Power	50 kW - 80 kW @ 1 - 100 Hz
Pulse Energy	> 70 µJ @ 1 - 100 Hz (> 25µJ @ 1kHz option)
Pulse Repetition Rate (external trigger)	1 - 100 Hz
Pulse Width (FWHM)	0.9 - 1.3 ns
Polarization Ratio	> 100:1, vertical
Long Term Pulse Energy Stability (6 hrs)	< ± 2 %
Pulse-To-Pulse Stability	< 1% rms (of pulse energy)
Laser Classification	3B / IIIb
Residual 532nm Emission	< 0.2% of output pulse energy
Optical Output	Free Beam
Electrical Power Consumption	< 70 W
Line Voltage	90 - 265 V AC (50-60 Hz) or 24 V DC
Interface	RS 232, USB
Warm-up Time	< 15 min
Operating Temperature	18 - 38 °C
Laser Head Size	217 x 65 x 45 mm (core dimensions)
Dimension Laser Head	279 x 89 x 44.7mm
Dimension OEM Controller	166 x 129.8 x 105mm
Options	SMA-connector for fibers with core diameter ≥ 70 µm; Synchronization signal output (rise time < 2 ns); Manual shutter or electrical beam blocker; Manual or electrical driven wavelength switch 355 / 532 nm; Upgrade to 1 kHz repetition rate (parameters on request); External telescope (e.g. M=5); Manual or electrical attenuator; Stand Alone System (incl. key-switch, heat-sink, manual shutter; CDRH compliant)

Dimensions:



Typical behaviour of the laser energy with different repetition rates:



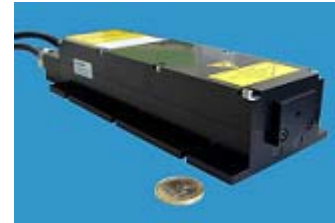


## SFTSS 355-300 Pulsed YAG Lasers

We provide passively Q-switched laser systems (DPSS) emitting at wavelengths of 213nm, 266nm, 355nm, 532nm, and 1064nm with excellent beam quality, which are widely used in various applications, such as biology, biomedicine, chemistry, and analytics.

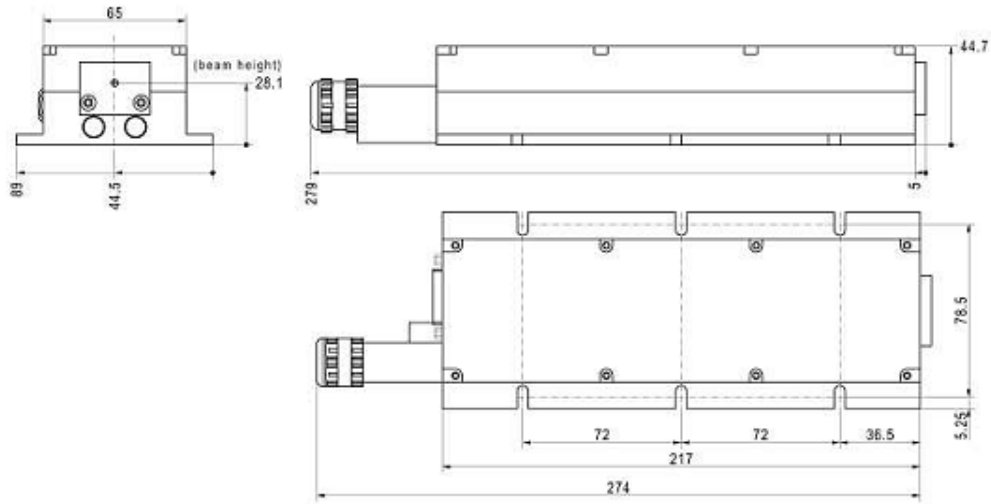
**Features:**

- Single pulse
- Pulsed <1.7ns
- Repetition rate 1-80Hz
- Pulse energy >300uJ

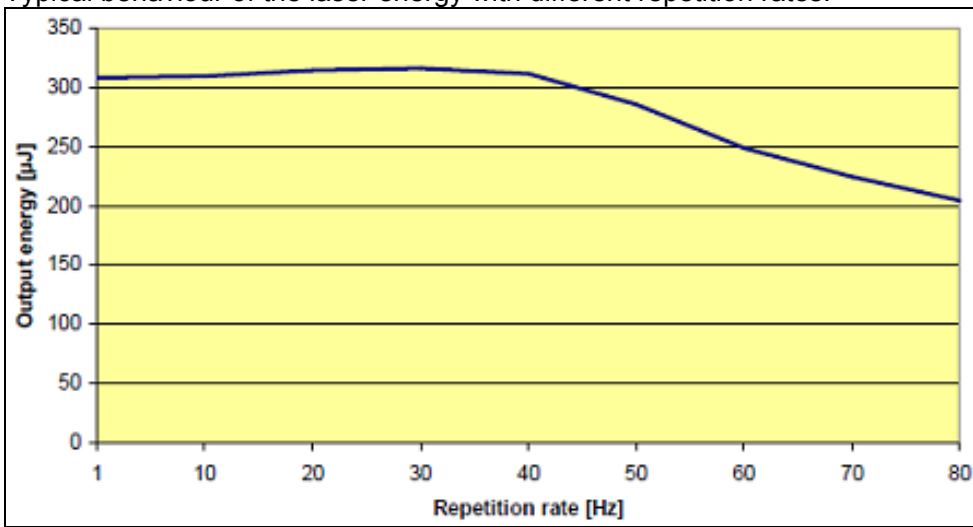


Model	SFTSS355-300
Wavelength	355 nm
Beam Divergence (full angle)	< 2.5 mrad
Beam Ellipticity	< 2:1
Waist Diameter	500±150µm (located at about 110mm inside the laser head)
Beam Diameter	800 ± 300 µm (at laser exit)
Peak Power	> 180 kW @ 20 Hz
Pulse Energy	> 300 µJ @ 20 Hz
Pulse Repetition Rate (external trigger)	1 - 80 Hz
Pulse Width (FWHM)	1.7 ns
Polarization Ratio	> 100:1, vertical
Long Term Pulse Energy Stability (6 hrs)	< ± 2 %
Laser Classification	3B / IIIb
Residual 532nm Emission	< 0.5% of output pulse energy
Optical Output	Free Beam
Electrical Power Consumption	< 150 W
Line Voltage	90 - 265 V AC (50-60 Hz) or 24 V DC
Interface	RS 232, USB
Warm-up Time	< 10 min
Operating Temperature	18 - 38 °C
Laser Head Size	217 x 65 x 45 mm (core dimensions)
Dimension laser head	279 x 89 x 44.7mm
Dimension OEM controller	166 x 129.8 x 105mm
Options	SMA-connector for fibers with core diameter ≥ 400 µm; Synchronization signal output (rise time < 2 ns); Manual shutter or electrical beam blocker; Manual or electrical driven wavelength switch 355 / 532 nm; External telescope (e.g. M=5); Manual or electrical attenuator; Heat sink with fan(recommended for repetition rates>50 Hz) Stand Alone System (incl. key-switch, heat-sink, manual shutter; CDRH compliant)

Dimensions:



Typical behaviour of the laser energy with different repetition rates:



## SMOPA 355 Pulsed YAG Lasers

We provide passively Q-switched laser systems (DPSS) emitting at wavelengths of 213nm, 266nm, 355nm, 532nm, and 1064nm with excellent beam quality, which are widely used in various applications, such as biology, biomedicine, chemistry, and analytics.

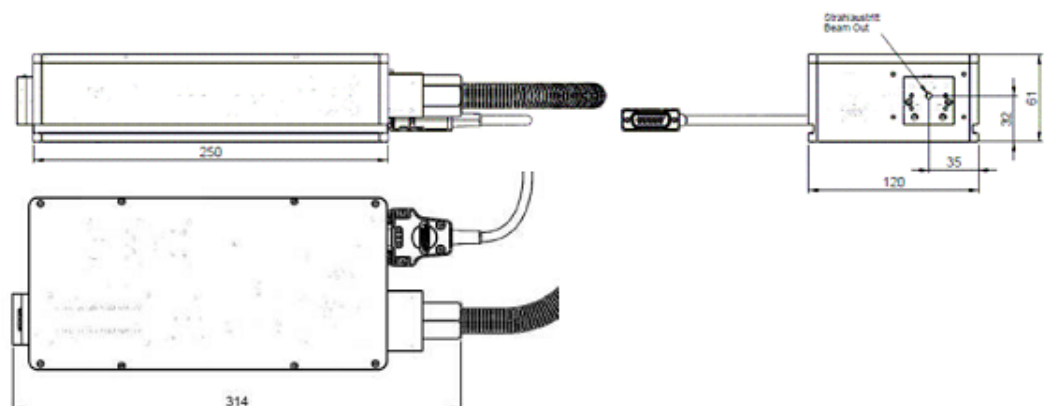
**Features:**

- Very short pulses
- External triggering
- Single pulse operation
- Excellent beam quality
- High pulse-to-pulse stability
- Good output energy stability



Model	SMOPA355-200(Peak power)	SMOPA355-500mW (Average power)
Wavelength	355 nm	355 nm
Average power	-	> 500 mW @ 15 kHz
Peak Power	> 180 kW @ 1000 Hz	-
Pulse Energy	> 200 μJ @ 1000 Hz	> 35 μJ @ 15 kHz
Beam Divergence	< 3.0 mrad(full angle)	< 3.0 mrad(full angle)
Beam Ellipticity	< 1.5:1	< 2:1
Beam Diameter	0.7 ± 0.3 mm (at laser exit)	0.7 ± 0.3 mm (at laser exit)
Spatial Mode	TEM00	TEM00
Pulse Repetition Rate	1 - 1000 Hz(with external trigger)	1 Hz - 20 kHz(with external trigger)
Pulse Width (FWHM)	1.1 ns	1.1 ns
Polarization Ratio	> 100:1, vertical	> 100:1, vertical
Pulse Energy Stability	< ± 3 % (over 8 hrs)	< ± 3 % @ 15kHz (over 8 hrs)
Pulse-to-Pulse Energy Stability (over 60 sec)	< ± 3 % (<1% rms)	< ± 8 % (<2.5% rms) @ 15kHz
Laser Classification	4 / IV	4 / IV
Optical Output	Free Beam	Free Beam
Power Consumption	< 200 W	< 250 W
Line Voltage	90 - 265 V AC (50-60 Hz)	90 - 265 V AC (50-60 Hz)
Interface	USB, SMB connector for 24 V DC output, BNC connector for external triggering (TTL)	
Warm-up Time	< 10 min	< 10 min
Operating Temp	18 - 38 °C	18 - 38 °C
Laser Head Size	61 x 120 x 314 mm (H x W x L)	61 x 120 x 314 mm (H x W x L)
Stand-Alone Unit Size	184 x 343 x 375 mm (H x W x L)	184 x 343 x 375 mm (H x W x L)
Options	Multimode fiber coupling; Synchronization signal output (rise time < 1.5 ns); Electrical or manual wavelength switch (355nm – 532nm) or electrical beam blocker; External telescope (beam expander) / Electrical or manual attenuator	Multimode fiber coupling; Synchronization signal output (rise time < 2 ns); Electrical or manual wavelength switch (355nm – 532nm) or electrical beam blocker; External telescope (beam expander) / Electrical or manual attenuator

**Dimensions:**



## SFDSS 532-Q Series Pulsed YAG Lasers

We provide passively Q-switched laser systems (DPSS) emitting at wavelengths of 213nm, 266nm, 355nm, 532nm, and 1064nm with excellent beam quality, which are widely used in various applications, such as biology, biomedicine, chemistry, and analytics.

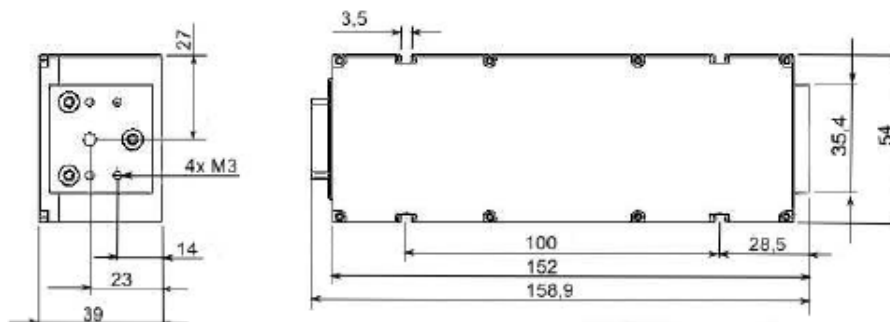
**Features:**

- Pulsed  $\leq 1.3\text{ns}$
- Pulse energy  $>25\mu\text{J}$
- Repetition rate up to 20kHz
- External and internal trigger mode
- Free beam or fiber coupling



Model	SFDSS532-Q1	SFDSS532-Q2	SFDSS532-Q3
Wavelength	532 nm		
Pulse energy	$> 2 \mu\text{J @ 15 kHz}$	$> 6 \mu\text{J @ 10 kHz}$	$> 20 \mu\text{J @ 1 kHz}$
Peak power	$> 1.5 \text{ kW @ 15 kHz}$	$> 4.5 \text{ kW @ 10 kHz}$	$> 15 \text{ kW @ 1 kHz}$
Max pulse repetition rate	20 kHz	10 kHz	2.5 kHz
Pulse width (FWHM)	$\leq 1.3 \text{ ns}$		
Polarization ratio	$> 100:1$ vertical		
Power stability	$< \pm 5 \%$	$< \pm 3 \%$	$< \pm 3 \%$
Laser classification	3B / IIIb		
Spatial mode	TEM00		
Beam divergence (full angle)	$< 3.5 \text{ mrad}$	$< 3.5 \text{ mrad}$	$< 3.5 \text{ mrad}$
Beam diameter at output plane	$250 \pm 50 \mu\text{m}$	$260 \pm 50 \mu\text{m}$	$300 \pm 80 \mu\text{m}$
Power consumption mean (max.)	15 W (40 W)	17 W (40 W)	20 W (70 W)
Operating voltage (OEM)	12 V DC		
Line voltage (AC-DC adapter)	90 - 240 V AC (50 - 60 Hz)		
Marking	CE		
Communication interface	RS 232, USB, External Trigger (TTL, rising edge) 1 Hz - max. repetition rate, Interface for TTL-control and power monitor		
Warm-up time	$< 5 \text{ min}$		
Operating temperature	$18 - 38 \text{ }^\circ\text{C}$		
Options	Stand alone system (incl. key-switch, heat-sink, manual shutter; CDRH compliant), Synchronization Signal Output (rise time $< 2 \text{ ns}$ ), Fiber Coupling for fiber with core diameter $> 70 \mu\text{m}$ , Manual shutter or electrical beam blocker, External telescope (e.g. M=4), Manual or electrical attenuator, Manual or electrical driven wavelength switch 532 nm / 1064 nm		
Dimensions laser head	158.9 x 54 x 39 mm		
Dimensions controller STAND ALONE	Q1,Q2: 134 x 115 x 64 mm; Q3: 174 x 115 x 64 mm		
Dimensions controller OEM	Q1, Q2: 134 x 130 x 35 mm; Q3: 174 x 130 x 35 mm		

**Dimensions:**



## SFDSS 532-Q4 Series Pulsed YAG Lasers

We provide passively Q-switched laser systems (DPSS) emitting at wavelengths of 213nm, 266nm, 355nm, 532nm, and 1064nm with excellent beam quality, which are widely used in various applications, such as biology, biomedicine, chemistry, and analytics.

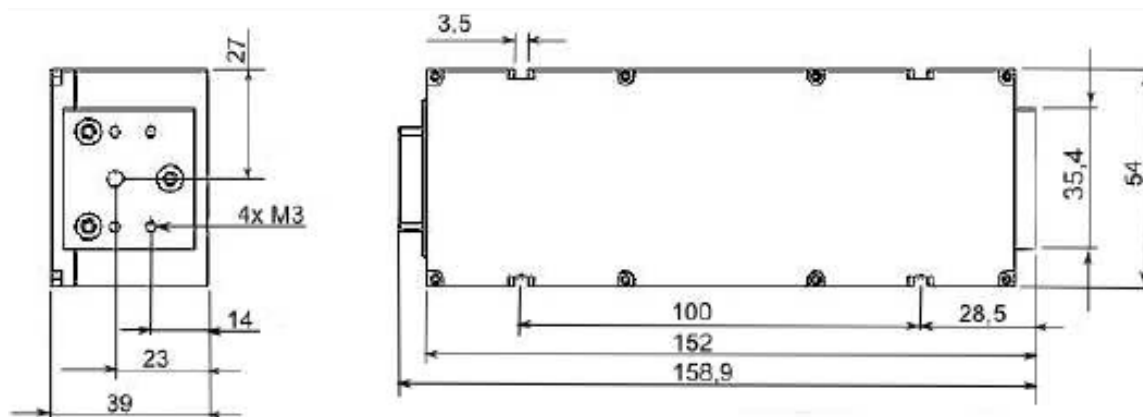
### Features:

- Pulsed  $\leq 1.4\text{ns}$
- Pulse energy  $>60\mu\text{J @ 200Hz}$
- Repetition rate up to 1kHz
- External and internal trigger mode
- Free beam or Fiber coupling



Model	SFDSS532-Q4	SFDSS532-Q4_1kHz
Wavelength	532 nm	
Pulse energy	$> 60 \mu\text{J @ 200 Hz}$	$> 42 \mu\text{J @ 1 kHz}$
Peak power	$> 42 \text{ kW @ 200 HZ}$	$> 30 \text{ kW @ 1 kHz}$
Max pulse repetition rate	200 Hz	1 kHz
Pulse width (FWHM)	$\leq 1.4 \text{ ns}$	
Polarization ratio	$> 100:1 \text{ vertical}$	
Power stability	$< 2\% \text{ rms}$	
Laser classification	3B / IIIb	
Spatial Mode	TEM00	
Beam divergence (full angle)	$< 4 \text{ mrad}$	$< 4.5 \text{ mrad}$
Beam diameter at output plane	$400 \pm 100 \mu\text{m}$	$400 \pm 100 \mu\text{m}$
Power consumption mean (max.)	40 (70 W)	40 (70 W)
Operating voltage (OEM)	12 V DC	
Line voltage (with AC-DC adapter)	90 - 265 V AC (50 - 60 Hz)	
Marking	CE	
Communication interface	RS 232, USB External Trigger (TTL, rising edge) 1 Hz - max. repetition rate Interface for TTL-control and power monitor	
Warm-up time	$< 5 \text{ min}$	
Operating temperature	18 - 38 °C	
Options	Stand alone system (incl. key-switch, heat-sink, manual shutter; CDRH compliant), Synchronization Signal Output (rise time $< 2 \text{ ns}$ ), Fiber Coupling for fiber with core diameter $> 100 \mu\text{m}$ , Manual Shutter or Electrical Beam Blocker, Manual or Electrical Wavelength Switch 532 nm / 1064 nm, External Telescope (e.g. M=5), Manual or Electrical Attenuator	
Dimensions laser head	158.9 x 54 x 39 mm	
Dimensions controller STAND ALONE	174 x 115 x 64 mm	
Dimensions controller OEM	174 x 130 x 35 mm	

### Dimensions:



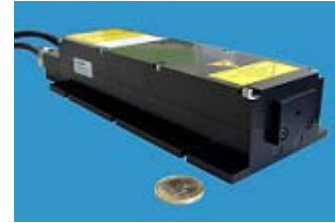


## SFDSS 532-150 Pulsed YAG Lasers

We provide passively Q-switched laser systems (DPSS) emitting at wavelengths of 213nm, 266nm, 355nm, 532nm, and 1064nm with excellent beam quality, which are widely used in various applications, such as biology, biomedicine, chemistry, and analytics.

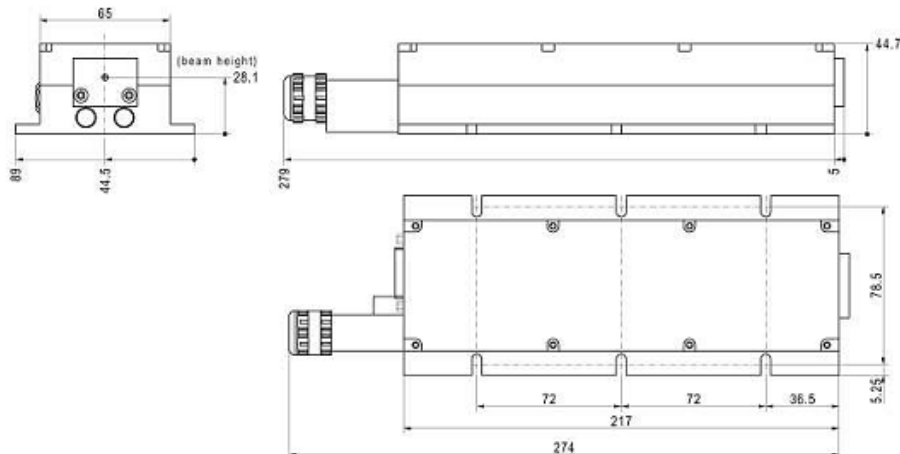
**Features:**

- Single pulse
- Pulsed 1.1-1.5ns
- Repetition rate 1-100Hz (optional up to 1kHz)
- Pulse energy >150uJ



Model	SFDSS532-150
Wavelength	532 nm
Spatial Mode	TEM00
M <sup>2</sup>	< 1.5
Beam Divergence (full angle)	< 5.5 mrad
Beam Ellipticity	< 2:1
Waist Diameter	280±80µm (located at about 110mm inside the laser head)
Beam Diameter	500 ± 150 µm (at laser exit)
Peak Power	100 kW - 140 kW @ 1 - 100 Hz
Pulse Energy	> 150 µJ @ 1 - 100 Hz (> 50µJ @ 1kHz option)
Pulse Repetition Rate (external trigger)	1 - 100 Hz
Pulse Width (FWHM)	1.1-1.5ns
Polarization Ratio	> 100:1, vertical
Long Term Pulse Energy Stability (6 hrs)	< ± 2 %
Pulse-To-Pulse Stability	< 1% rms (of pulse energy)
Laser Classification	3B / IIIb
Optical Output	Free Beam
Electrical Power Consumption	< 70 W
Line Voltage	90 - 265 V AC (50-60 Hz) or 24 V DC
Interface	RS 232, USB
Warm-up Time	< 10 min
Operating Temperature	18 - 38 °C
Laser Head Size	217 x 65 x 45 mm (core dimensions)
Dimension Laser Head	279 x 89 x 44.7mm
Dimension OEM Controller	166 x 129.8 x 105mm
Options	Fiber coupling for fibers with core diameter ≥100µm; Synchronization signal output (rise time < 2 ns); Manual shutter or electrical beam blocker; Manual or electrical driven wavelength switch 532/1064 nm; Upgrade to 1 kHz repetition rate (parameters on request); External telescope (e.g. M=5); Manual or electrical attenuator; Stand Alone System (incl. key-switch, heat-sink, manual shutter; CDRH compliant)

**Dimensions:**

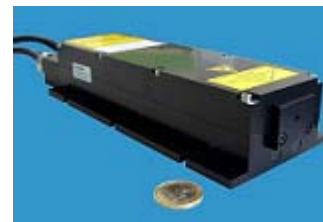


## SFDSS 532-1000 Pulsed YAG Lasers

We provide passively Q-switched laser systems (DPSS) emitting at wavelengths of 213nm, 266nm, 355nm, 532nm, and 1064nm with excellent beam quality, which are widely used in various applications, such as biology, biomedicine, chemistry, and analytics.

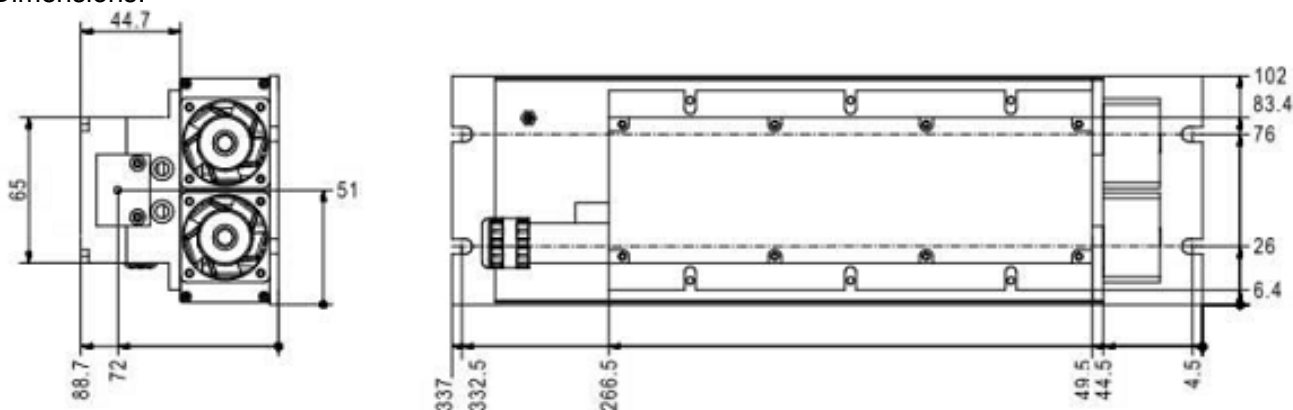
### Features:

- Single pulse
- Pulsed <1.8ns
- Repetition rate 1-80Hz
- Pulse energy >1000uJ



Model	SFDSS532-1000
Wavelength	532 nm
Spatial Mode	TEM00
Beam Divergence (full angle)	< 6.5 mrad
Beam Ellipticity	< 2:1
Waist Diameter	500±150µm (located at about 110mm inside the laser head)
Beam Diameter	1.0 ± 0.3 mm (at laser exit)
Peak Power	> 500 kW @ 20 Hz
Pulse Energy	> 1000 µJ @ 20 Hz
Pulse Repetition Rate (external trigger)	1 - 80 Hz
Pulse Width (FWHM)	<1.8ns
Polarization Ratio	> 100:1, vertical
Long Term Pulse Energy Stability (6 hrs)	< ± 8 %
Laser Classification	3B / IIIb
Optical Output	Free Beam
Electrical Power Consumption	< 150 W
Line Voltage	90 - 265 V AC (50-60 Hz) or 24 V DC
Interface	RS 232 (USB on request)
Warm-up Time	< 10 min
Operating Temperature	20 - 40 °C
Laser Head Size	217 x 65 x 45 mm (core dimensions)
Dimension laser head	337 x 102 x 88.7mm
Dimension controller	166 x 130 x 106mm
Options	SMA-connector for fibers with core diameter ≥ 400 µm; Synchronization signal output (rise time < 2 ns); Manual shutter or electrical beam blocker; Manual or electrical driven wavelength switch 532/1064 nm; External telescope (e.g. M=5); Manual and electrical attenuator; Stand alone system (CDRH compliant; incl. key switch, heat sink, manual beam shutter)

### Dimensions:



## SMOPA 532 Pulsed YAG Lasers

We provide passively Q-switched laser systems (DPSS) emitting at wavelengths of 213nm, 266nm, 355nm, 532nm, and 1064nm with excellent beam quality, which are widely used in various applications, such as biology, biomedicine, chemistry, and analytics.

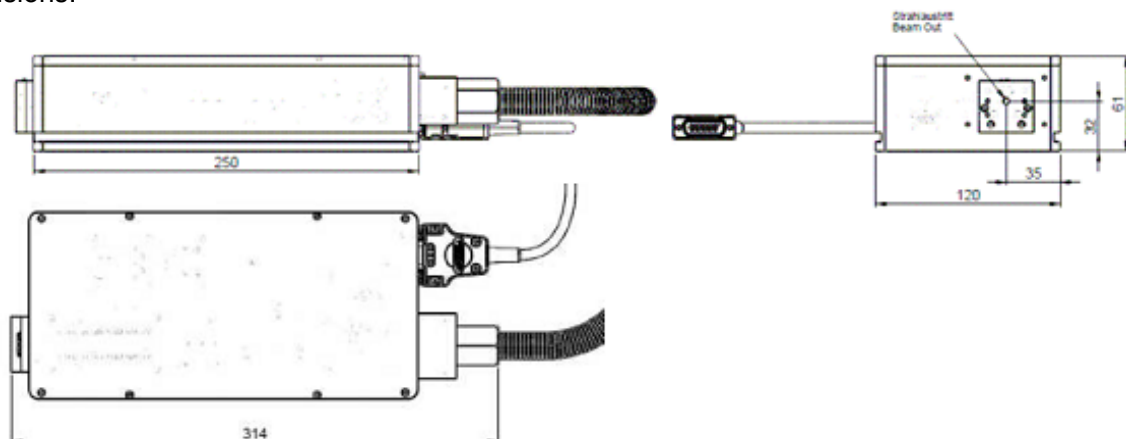
**Features:**

- Very short pulses
- External triggering
- Single pulse operation
- Excellent beam quality
- High pulse-to-pulse stability
- Good output energy stability



Model	SMOPA532-250(Peak power)	SMOPA532-700mW (Average power)
Wavelength	532 nm	532 nm
Average power	-	> 700 mW @ 15 kHz
Peak Power	> 200 kW @ 1000 Hz	-
Pulse Energy	> 250 μJ @ 1000 Hz	> 48 μJ @ 15 kHz
Beam Divergence	< 3.0 mrad(full angle)	< 3.0 mrad(full angle)
Beam Ellipticity	< 2:1	< 2:1
Beam Diameter	0.7 ± 0.3 mm (at laser exit)	0.7 ± 0.3 mm (at laser exit)
Spatial Mode	TEM00	TEM00
Pulse Repetition Rate	1 - 1000 Hz(with external trigger)	1 Hz - 20 kHz(with external trigger)
Pulse Width (FWHM)	1.2 ns	1.3 ns
Polarization Ratio	> 100:1, vertical	> 100:1, vertical
Pulse Energy Stability	< ± 3 % (over 8 hrs)	< ± 3 % @ 15kHz (over 8 hrs)
Pulse-to-Pulse Energy Stability (over 60 sec)	< ± 3 % (<1% rms)	< ± 8 % (<2.5% rms)
Laser Classification	3B / III	4 / IV
Optical Output	Free Beam	Free Beam
Power Consumption	< 150 W	< 250 W
Line Voltage	90 - 265 V AC (50-60 Hz)	90 - 265 V AC (50-60 Hz)
Interface	USB, SMB connector for 24 V DC output, BNC connector for external triggering (TTL)	
Warm-up Time	< 10 min	< 10 min
Operating Temp	18 - 38 °C	18 - 38 °C
Laser Head Size	61 x 120 x 314 mm (H x W x L)	61 x 120 x 314 mm (H x W x L)
Stand-Alone Unit Size	184 x 343 x 375 mm (H x W x L)	184 x 343 x 375 mm (H x W x L)
Options	Multimode fiber coupling; Synchronization signal output (rise time < 2 ns); Electrical or manual wavelength switch (532nm – 1064nm) or electrical beam blocker; External telescope (beam expander) / Electrical or manual attenuator	

**Dimensions:**



## SDSS 1064-Q Series Pulsed YAG Lasers

We provide passively Q-switched laser systems (DPSS) emitting at wavelengths of 213nm, 266nm, 355nm, 532nm, and 1064nm with excellent beam quality, which are widely used in various applications, such as biology, biomedicine, chemistry, and analytics.

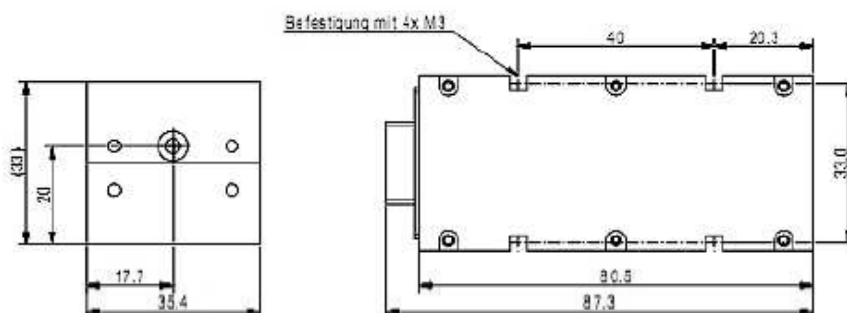
### Features:

- Pulsed  $\leq 1.5$ ns
- Pulse energy  $>70$ uJ
- Repetition rate up to 20kHz
- External and internal trigger mode
- Free beam or fiber coupling



Model	SDSS1064-Q1	SDSS1064-Q2	SDSS1064-Q3
Wavelength	1064 nm		
Pulse energy	$> 10 \mu\text{J} @ 15 \text{ kHz}$	$> 20 \mu\text{J} @ 10 \text{ kHz}$	$> 50 \mu\text{J} @ 1 \text{ kHz}$
Peak power	$> 6.5 \text{ kW} @ 15 \text{ kHz}$	$> 13 \text{ kW} @ 10 \text{ kHz}$	$> 31 \text{ kW} @ 1 \text{ kHz}$
Max pulse repetition rate	20 kHz	10 kHz	2.5 kHz
Pulse width (FWHM)	$\leq 1.5 \text{ ns}$		
Polarization ratio	$> 100:1$ vertical		
Power stability	$< \pm 5 \%$	$< \pm 3 \%$	$< \pm 3 \%$
Laser classification	3B / IIIb		
Spatial Mode	TEM00		
Beam divergence (full angle)	$< 3.0 \text{ mrad}$	$< 3.0 \text{ mrad}$	$< 4.0 \text{ mrad}$
Beam diameter at output plane	$600 \pm 100 \mu\text{m}$	$500 \pm 100 \mu\text{m}$	$600 \pm 100 \mu\text{m}$
Power consumption mean (max.)	10 W (40 W)	13 W (40W)	15 W (70 W)
Operating voltage (OEM)	12 V DC		
Line voltage (AC-DC adapter)	90 - 240 V AC (50 - 60 Hz)		
Marking	CE		
Communication interface	RS 232, USB, External Trigger (TTL, rising edge) 1 Hz - max. repetition rate, Interface for TTL-control and power monitor		
Warm-up time	$< 5 \text{ min}$		
Operating temperature	$18 - 38 \text{ }^\circ\text{C}$		
Options	Stand alone system (incl. key-switch, heat-sink and manual shutter; CDRH compliant), Synchronization Signal Output (rise time $< 2 \text{ ns}$ ), Fiber Coupling for fiber with core diameter $> 70 \mu\text{m}$ , Manual shutter or electrical beam blocker, External telescope (e.g. M=4), Manual or electrical attenuator		
Dimensions Laser Head	87.3 x 35.4 x 33 mm		
Dimensions Controller STAND ALONE	Q1,Q2: 134 x 115 x 64 mm; Q3: 174 x 115 x 64 mm		
Dimensions Controller OEM	Q1, Q2: 134 x 130 x 35 mm; Q3: 174 x 130 x 35 mm		

### Dimensions:



## SDSS 1064-Q4 Series Pulsed YAG Lasers

We provide passively Q-switched laser systems (DPSS) emitting at wavelengths of 213nm, 266nm, 355nm, 532nm, and 1064nm with excellent beam quality, which are widely used in various applications, such as biology, biomedicine, chemistry, and analytics.

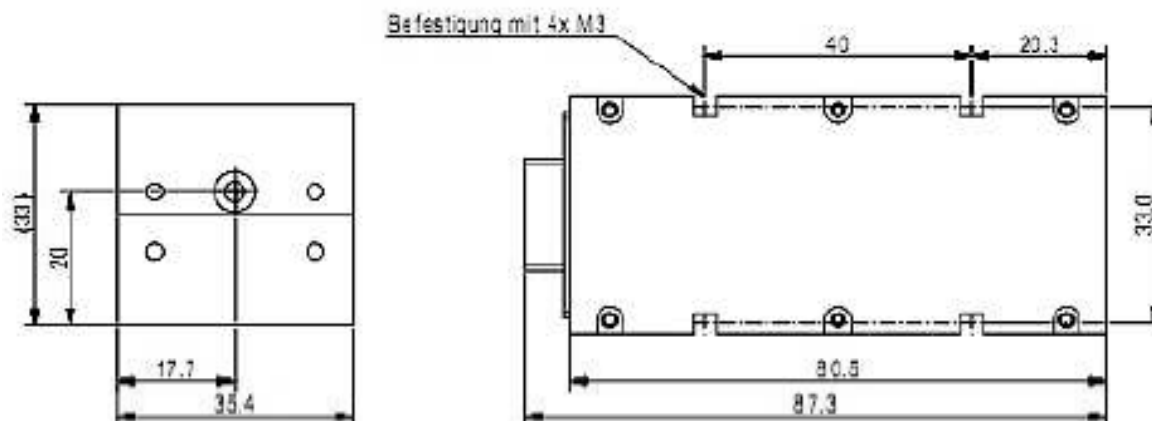
### Features:

- Pulsed  $\leq 1.5$ ns
- Pulse energy  $>140\mu\text{J}$  @ 200Hz
- Repetition rate up to 1kHz
- External and internal trigger mode
- Free beam or Fiber coupling



Model	SDSS1064-Q4	SDSS1064-Q4_1kHz
Wavelength	1064 nm	
Pulse energy	$> 140 \mu\text{J}$ @ 200 Hz	$>90 \mu\text{J}$ @ 1 kHz
Peak power	$> 90 \text{ kW}$ @ 200 Hz	$>60 \text{ kW}$ @ 1 kHz
Max pulse repetition rate	200 Hz	1 kHz
Pulse width (FWHM)	$\leq 1.5$ ns	
Polarization ratio	$> 100:1$ vertical	
Power stability	$< 2\%$ rms	
Laser classification	3B / IIIb	
Spatial Mode	TEM00	
Beam divergence (full angle)	$< 4.0$ mrad	$< 4.0$ mrad
Beam diameter at output plane	$650 \pm 100 \mu\text{m}$	$650 \pm 100 \mu\text{m}$
Power consumption mean (max.)	$22 \text{ W}$ (80 W)	$22 \text{ W}$ (80 W)
Operating voltage (OEM)	12 V DC	
Line voltage (with AC-DC adapter)	90 - 265 V AC (50 - 60 Hz)	
Marking	CE	
Communication interface	RS 232, USB External Trigger (TTL, rising edge) 1 Hz - max. repetition rate Interface for TTL-control and power monitor	
Warm-up time	$< 5$ min	
Operating temperature	18 - 38 °C	
Options	Stand Alone System (incl. key-switch, heat-sink and manual shutter; CDRH compliant), Synchronization Signal Output (rise time $< 2$ ns), Fiber Coupling for fiber with core diameter $> 70 \mu\text{m}$ , Manual Shutter or Electrical Beam Blocker, External Telescope (e.g. M=5), Manual or Electrical Attenuator	
Dimensions Laser head	87.3 x 35.4 x 33 mm	
Dimensions Controller STAND ALONE	174 x 115 x 64 mm	
Dimensions Controller OEM	174 x 130 x 35 mm	

### Dimensions:



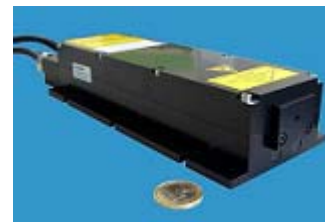


## SDSS 1064-450 Pulsed YAG Lasers

We provide passively Q-switched laser systems (DPSS) emitting at wavelengths of 213nm, 266nm, 355nm, 532nm, and 1064nm with excellent beam quality, which are widely used in various applications, such as biology, biomedicine, chemistry, and analytics.

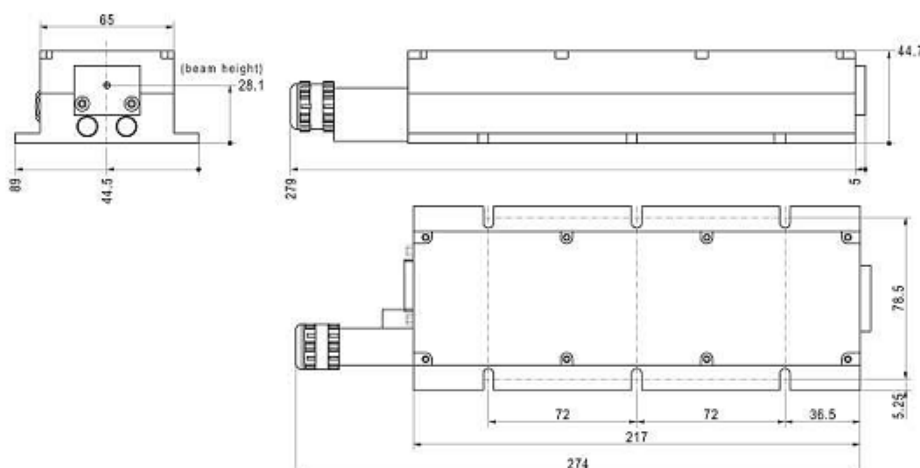
### Features:

- Single pulse
- Pulsed 1.4-2ns
- Repetition rate 1-100Hz (optional up to 1kHz)
- Pulse energy >450uJ



Model	SDSS1064-450
Wavelength	1064 nm
Spatial Mode	TEM00
M <sup>2</sup>	< 1.5
Beam Divergence (full angle)	< 6.5 mrad
Beam Ellipticity	< 2:1
Waist Diameter	380±100 μm (located at about 110mm inside the laser head)
Beam Diameter	600 ± 150 μm (at laser exit)
Peak Power	220 kW - 325 kW @ 1-100 Hz
Pulse Energy	>450 μJ @ 1 - 100 Hz (>150μJ @ 1kHz option)
Pulse Repetition Rate (external trigger)	1 - 100 Hz, (up to 1 kHz, on request)
Pulse Width (FWHM)	1.4 ns - 2 ns
Polarization Ratio	> 100:1, vertical
Long Term Pulse Energy Stability (6 hrs)	< ± 6 %
Pulse-To-Pulse Stability	< 1% rms (of pulse energy)
Laser Classification	3B / IIIb
Optical Output	Free Beam
Electrical Power Consumption	< 70 W
Line Voltage	90 - 265 V AC (50-60 Hz) or 24 V DC
Interface	RS 232, USB
Warm-up Time	< 10 min
Operating Temperature	18 - 38 °C
Laser Head Size	217 x 65 x 45 mm (core dimensions)
Dimension laser head	279 x 89 x 44.7mm
Dimension OEM controller	166 x 129.8 x 105mm
Options	Fiber coupling for fibers with core diameter ≥ 200 μm; Synchronization signal output (rise time < 2 ns); Manual shutter or electrical beam blocker; Upgrade to 1 kHz repetition rate (parameters on request); External telescope (e.g. M=5); Manual or electrical attenuator; Stand alone system (CDRH compliant; incl. key switch, heat sink, manual beam shutter)

### Dimensions:

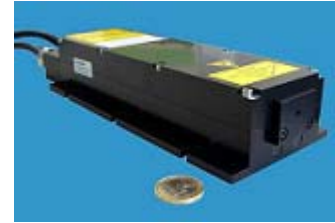


## SDSS 1064-3000 Pulsed YAG Lasers

We provide passively Q-switched laser systems (DPSS) emitting at wavelengths of 213nm, 266nm, 355nm, 532nm, and 1064nm with excellent beam quality, which are widely used in various applications, such as biology, biomedicine, chemistry, and analytics.

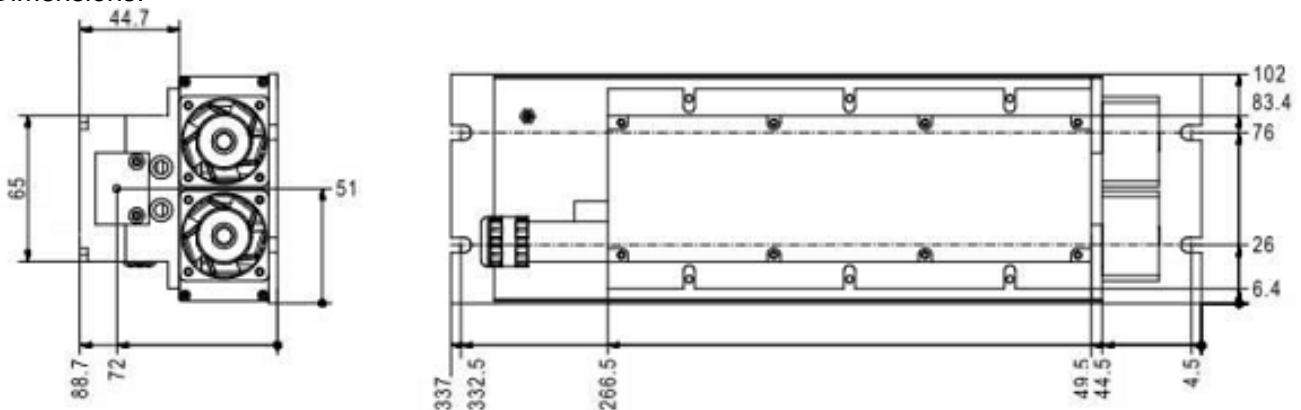
**Features:**

- Single pulse
- Pulsed <2.5ns
- Repetition rate 1-80Hz
- Pulse energy >2500uJ



Model	SDSS1064-3000
Wavelength	1064 nm
Spatial Mode	TEM00
Beam Divergence (full angle)	< 9 mrad
Beam Ellipticity	< 2:1
Waist Diameter	600±150µm (located at about 110mm inside the laser head)
Beam Diameter	1200 ± 400 µm (at laser exit)
Peak Power	> 1250 kW @ 20 Hz
Pulse Energy	> 2500 µJ @ 20 Hz
Pulse Repetition Rate (external trigger)	1 - 80 Hz
Pulse Width (FWHM)	<2.5ns
Polarization Ratio	> 50:1, vertical
Long Term Pulse Energy Stability (6 hrs)	< ± 8 %
Laser Classification	3B / IIIb
Optical Output	Free Beam
Electrical Power Consumption	< 100 W (@230V AC)
Line Voltage	90 - 265 V AC (50-60 Hz) or 24 V DC
Interface	RS 232 (USB on request)
Warm-up Time	< 10 min
Operating Temperature	28 - 35 °C
Laser Head Size	217 x 65 x 45 mm (core dimensions)
Dimension laser head	337 x 102 x 88.7mm
Dimension controller	166 x 130 x 106mm
Options	SMA-connector for fibers with core diameter ≥ 600 µm; Synchronization signal output (rise time < 2 ns); Manual shutter or electrical beam blocker; Manual or electrical attenuator; Stand alone system (CDRH compliant; incl. key switch, heat sink, manual beam shutter)

**Dimensions:**



## SMOPA 1064 Pulsed YAG lasers

We provide passively Q-switched laser systems (DPSS) emitting at wavelengths of 213nm, 266nm, 355nm, 532nm, and 1064nm with excellent beam quality, which are widely used in various applications, such as biology, biomedicine, chemistry, and analytics.

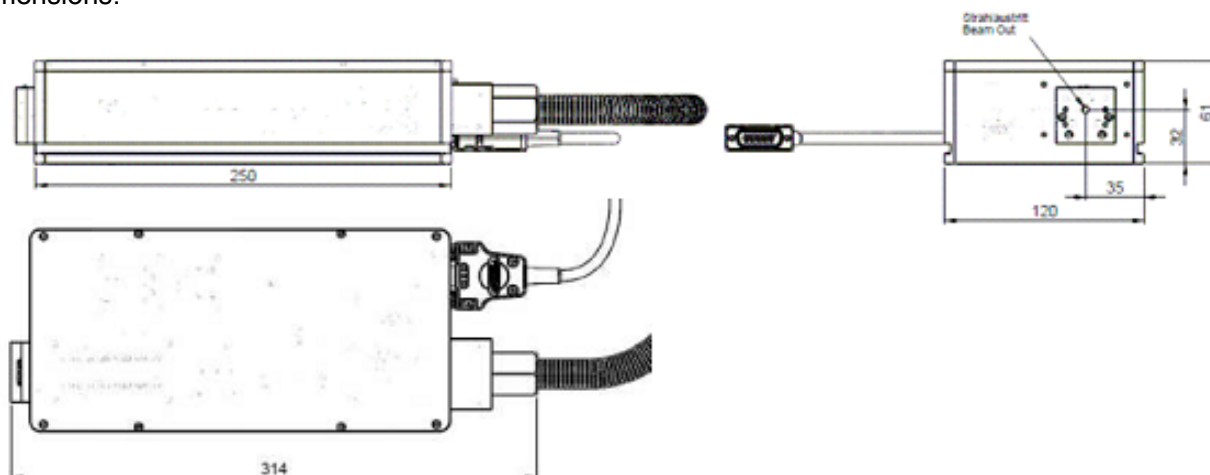
### Features:

- Very short pulses
- External triggering
- Single pulse operation
- Excellent beam quality
- High pulse-to-pulse stability
- Good output energy stability



Model	SMOPA1064-650(Peak power)	SMOPA1064-2000mW(Average power)
Wavelength	1064 nm	1064 nm
Average power	-	> 2000 mW @ 15 kHz
Peak Power	> 450 kW @ 1000 Hz	-
Pulse Energy	> 650 $\mu$ J @ 1000 Hz	> 130 $\mu$ J @ 15 kHz
Beam Divergence	< 3.0 mrad(full angle)	< 5.0 mrad(full angle)
Beam Ellipticity	< 2:1	< 2:1
Beam Diameter	1.0 $\pm$ 0.3 mm (at laser exit)	0.7 $\pm$ 0.3 mm (at laser exit)
Spatial Mode	TEM00	TEM00
Pulse Repetition Rate	1 - 1000 Hz(with external trigger)	1 Hz - 20 kHz(with external trigger)
Pulse Width (FWHM)	1.4 ns	1.5 ns
Polarization Ratio	> 100:1, vertical	> 100:1, vertical
Pulse Energy Stability	< $\pm$ 3 % (over 8 hrs)	< $\pm$ 5 % @ 15kHz (over 8 hrs)
Pulse-to-Pulse Energy Stability (over 60 sec)	< $\pm$ 3 % (<1% rms)	< $\pm$ 8 % (<2.5% rms)
Laser Classification	4 / IV	4 / IV
Optical Output	Free Beam	Free Beam
Power Consumption	< 150 W	< 250 W
Line Voltage	90 - 265 V AC (50-60 Hz)	90 - 265 V AC (50-60 Hz)
Interface	USB, SMB connector for 24 V DC output, BNC connector for external triggering (TTL)	
Warm-up Time	< 10 min	< 10 min
Operating Temp	18 - 38 $^{\circ}$ C	18 - 38 $^{\circ}$ C
Laser Head Size	61 x 120 x 314 mm (H x W x L)	61 x 120 x 314 mm (H x W x L)
Stand-Alone Unit Size	184 x 343 x 375 mm (H x W x L)	184 x 343 x 375 mm (H x W x L)
Options	Multimode fiber coupling; Synchronization signal output (rise time < 2 ns); Electrical beam blocker; External telescope (beam expander) / Electrical or manual attenuator	

### Dimensions:



## 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.

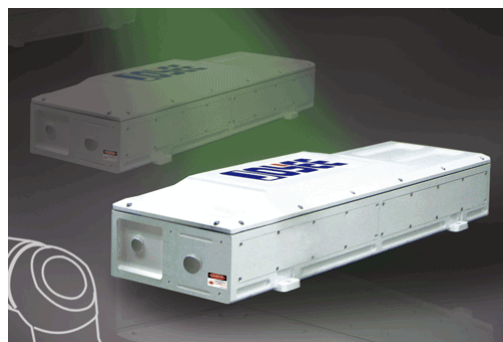
### Features:

- 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

## 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 $\mu$ s to 2.0 $\mu$ 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 $\mu$ s
Power Supply	220V 50Hz AC
Cooling System	closed- loop water cooling system

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



## 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 (mJ) 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	Option	
Beam Mode		-M (TEM <sub>00</sub> ); -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 <sup>3</sup> )	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)