

Information about laser systems with Nd:YAG lasers.

Pulsed Nd:YAG laser, Model LQ529 in its base variant can be supplied with build in second, third or fourth harmonic generators and with external fifth harmonic generator.

Pulsed Nd:YAG laser, Model LQ829 or LQ929 in its base variant can be supplied with build in second harmonic generator and external third or fourth harmonic generators and with external fifth harmonic generator.

Specification:

Model	LQ529A, optimized for SHG and FHG	LQ529A, optimized for THG and FiHG
Pulse repetition rate, Hz	1...10	1...10
Output energy, mJ @ 1064nm @ 532nm @ 355nm @ 266nm @ 21nm	500 280 - 70 -	500 ~220 100 ~60 20
Pulse duration, nsec	10...13	10...13
Beam diameter, mm	<8	<8
Divergence, mrad	<1.5	<1.5
Stability, +/-%, better than	2.5	2.5
Jitter, +/-nsec	1	1
Power consumption, (single phase, 220V +/-10%, 50/60Hz), BA, less than	600	600
Dimensions, mm Laser Head Power Supply	575 x 180 x 100 650 x 290 x 650	575 x 180 x 100 650 x 290 x 650

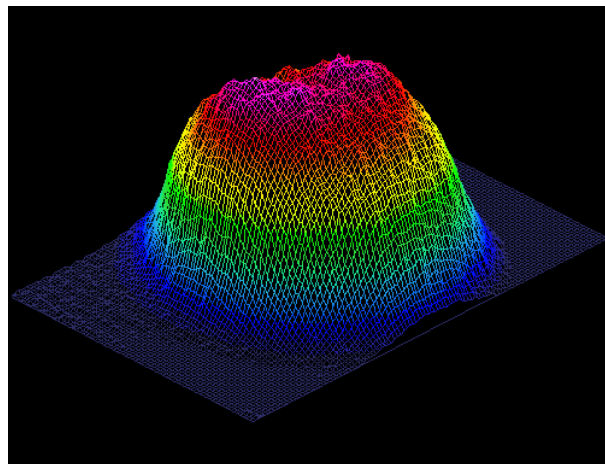
Model	LQ529B, optimized for SHG and FHG	LQ529B, optimized for THG and FiHG
Pulse repetitions rate, Hz	1...10 (20)	1...10 (20)
Output energy, mJ @ 1064nm @ 532nm @ 355nm @ 266nm @ 213nm	350 190 - 60 (40) -	350 ~ 150 90 ~40 (~ 25) 15 (12)
Pulse duration, nsec	10...13	10...13
Beam diameter, mm	<6	<6
Divergence, mrad	<1.5	<1.5
Stability, +/-%, better than	2.5	2.5
Jitter, +/-nsec	1	1
Power consumption, (single phase, 220V +/-10%, 50/60Hz), VA, less than	600	600
Dimensions, mm Laser Head Power Supply	575 x 180 x 100 650 x 290 x 650	575 x 180 x 100 650 x 290 x 650

Model	LQ529C, optimized for SHG and FHG	LQ529C, optimized for THG and FiHG
Pulse repetition rate, Hz	1...50	1...50
Output energy, mJ @ 1064nm @ 532nm @ 355nm @ 266nm @ 213nm	150 80 - 16 -	150 ~65 40 ~12 5
Pulse duration, nsec	10...13	10...13
Beam diameter, mm	<5	<5
Divergence, mrad	<1.3	<1.3
Stability, +/-%, better than	2.5	2.5
Jitter, +/-nsec	1	1
Power consumption , (single phase, 220V +/-10%, 50/60Hz), BA, less than	1000	1000
Dimensions, mm Laser Head Power Supply	575 x 180 x 100 650 x 290 x 650	575 x 180 x 100 650 x 290 x 650

Model	LQ829, optimized for SHG and FHG	LQ829, optimized for THG and FiHG
Pulse repetition rate, Hz	10	10
Output energy, mJ @1064nm @532nm @355nm @266nm @213nm	1000 550 - 120 -	1000 ~450 220 ~100 40
Pulse duration, nsec	8...11	8...11
Beam diameter, mm	≤10	≤10
Divergence, mrad	~1,5	~1,5
Stability, +/-%, better than	2.5	2.5
Jitter, , +/-nsec	1	1
Power consumption , (single phase, 220V +/-10%, 50/60Hz), BA, less than	900	900
Dimensions, mm Laser Head Power Supply	600 x 220 x 115 770 x 340 x 670	600 x 220 x 115 770 x 340 x 670

Model	LQ929, optimized for SHG and FHG	LQ929, optimized for THG and FiHG
Pulse repetition rate, Hz	10	10
Output energy, mJ @ 1064nm @ 532nm @ 355nm @ 266nm @ 213nm	1400 800 - 180 -	1400 ~650 300 ~140 50
Pulse duration, nsec	8...11	8...11
Beam diameter, mm	≤11	≤11
Divergence, mrad	~1,5	~1,5
Stability, +/-%, better than	2.5	2.5
Jitter, , +/-nsec	1	1
Power consumption , (single phase, 220V +/-10%, 50/60Hz), BA, less than	1200	1200
Dimensions, mm Laser Head Power Supply	600 x 220 x 115 770 x 340 x 670	600 x 220 x 115 770 x 340 x 670

The radiation is multimode (MM). The distribution of the beam profile in near-field region is close to U-section. The typical profile of the beam at 1064nm for LQ529B is shown on the picture.



Linewidth of generation @1064nm is about 1cm^{-1} .

There is a possibility to control frequency and output power manually and through PC.



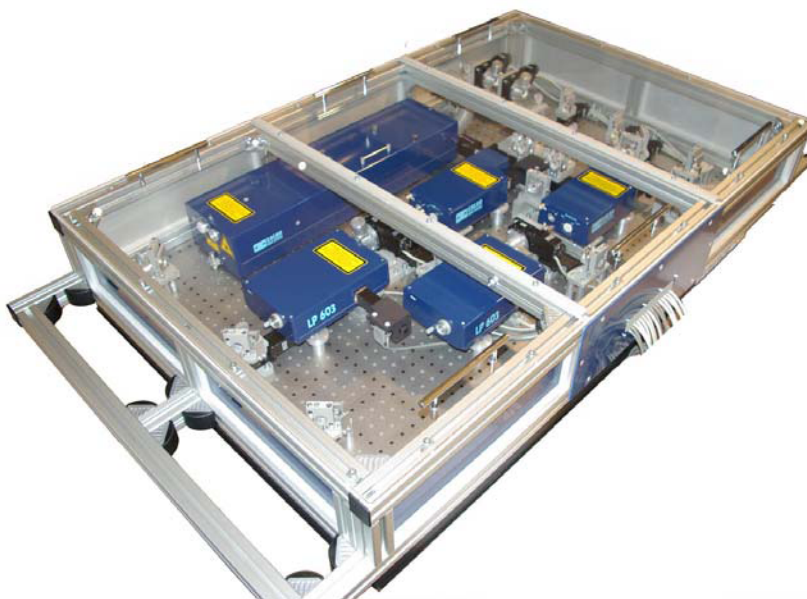
LQ929 Nd:YAG laser



Laser Head of the LQ529 Nd:YAG laser

At placing an order you should advise which harmonic generators are necessary for your applications. Upon the request we can offer you all external second, third and fourth harmonic generators. In this case, you will get a laser system with a possibility to extract different wavelengths outside the system without its dismantling (misalignment). You can do it with the help of additional mirrors which are placed between separate laser system blocks.

The laser system can be installed on a standard optical table with a net of threaded holes of 25x25mm or 50x50mm. In this case the additional optics can be installed in standard holders between the laser system blocks. See photo below.

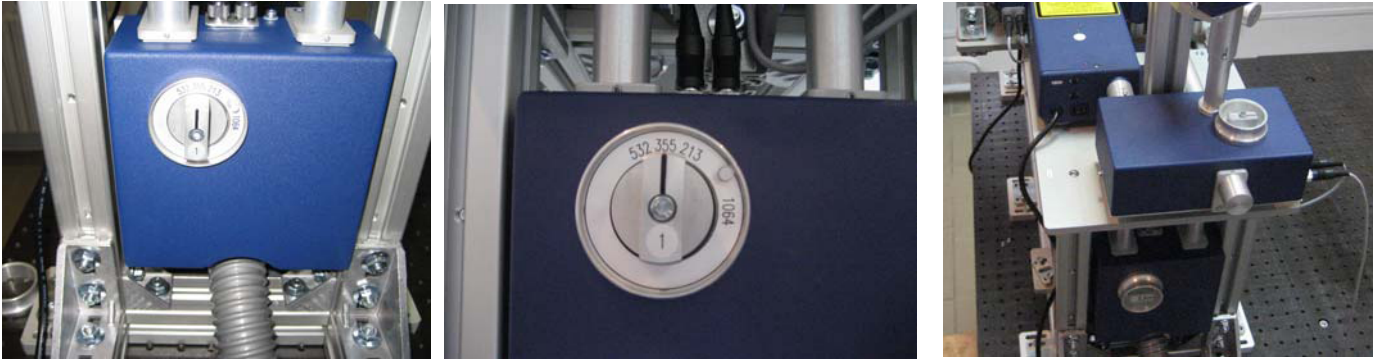


We also offer our customers to place the parts of the laser system on a common mounting frame. All necessary optical elements with holders can be also fixed on this mounting frame.

There are following variants if such systems:

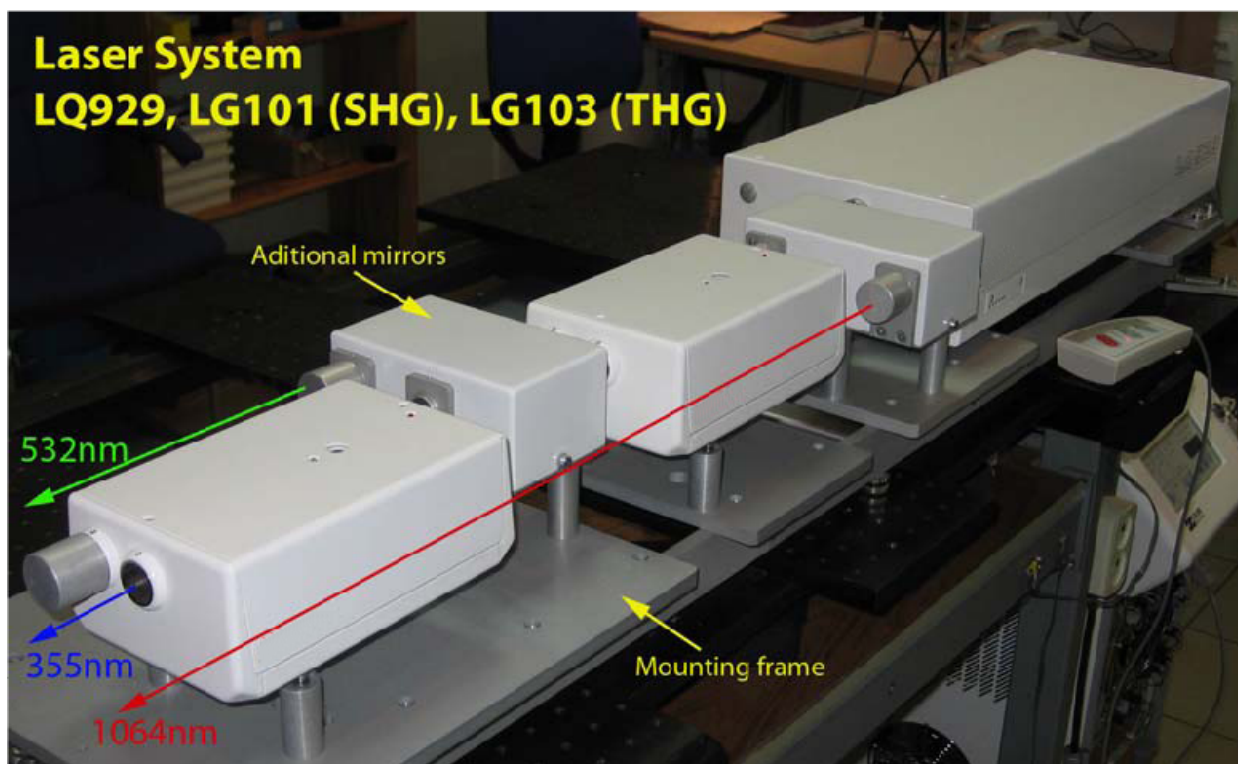
- The mirrors between the blocks of the system can be taken out from the beam by means of manual removal and installation. After their installation, a certain adjustment of the mirror position. (Performance 1).
- The mirrors between the blocks of the system can be taken out from the beam by means of rotation of certain platforms. At that the adjustment of the mirrors is not necessary. (Performance 2).

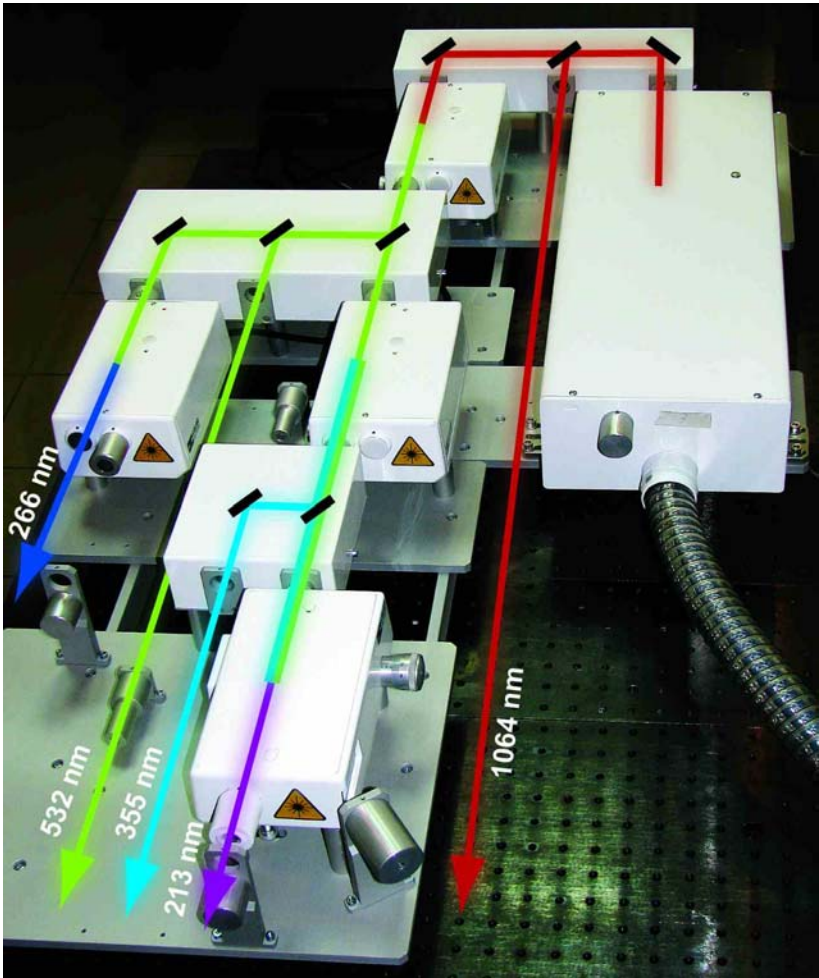
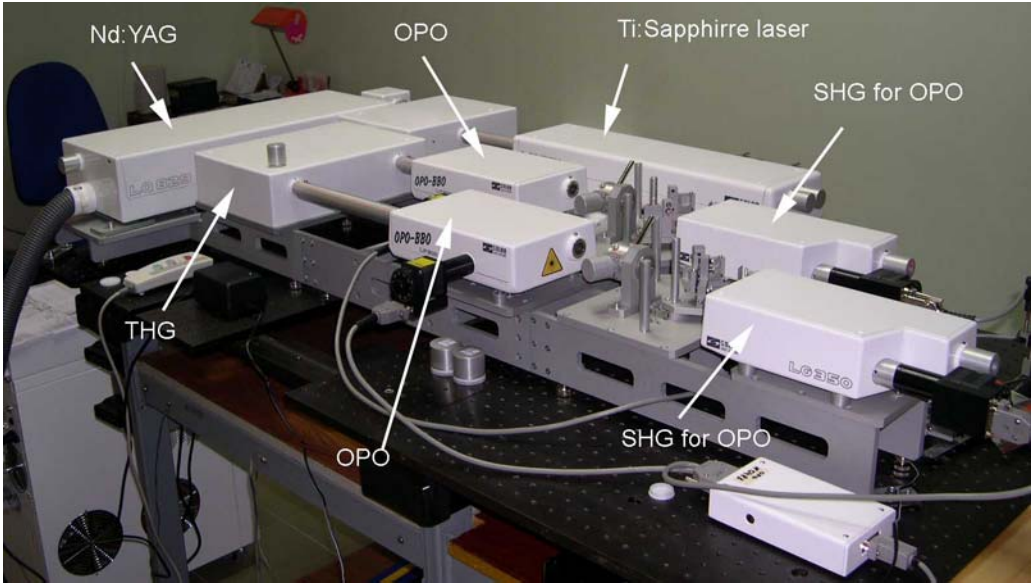
The chose of the working wavelength is carried out by the moving of a few handles. There is no necessity to take off the laser cover and to remove any mirrors or blocks. See photo for example .



All handles have electric locking system what prevent the damage of the parts of the system if the user makes a mistake at setting a wavelengths.

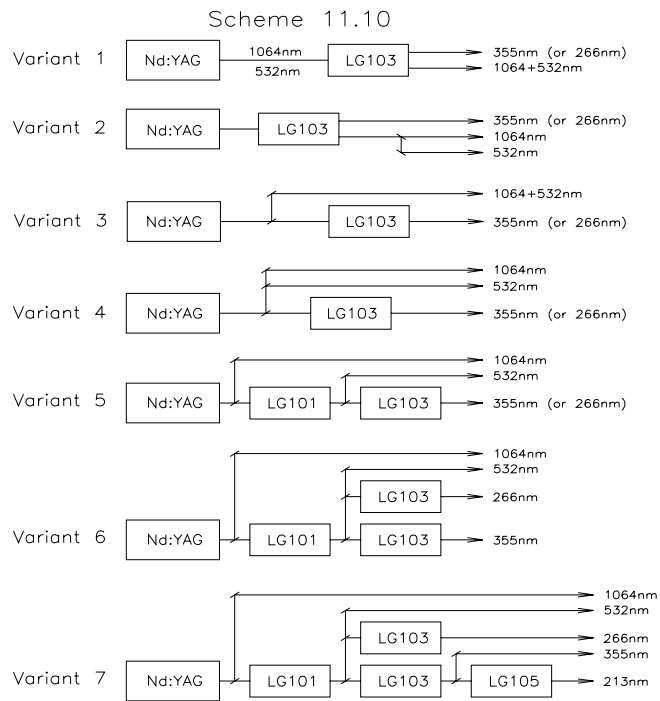
The examples of laser systems you can see below.



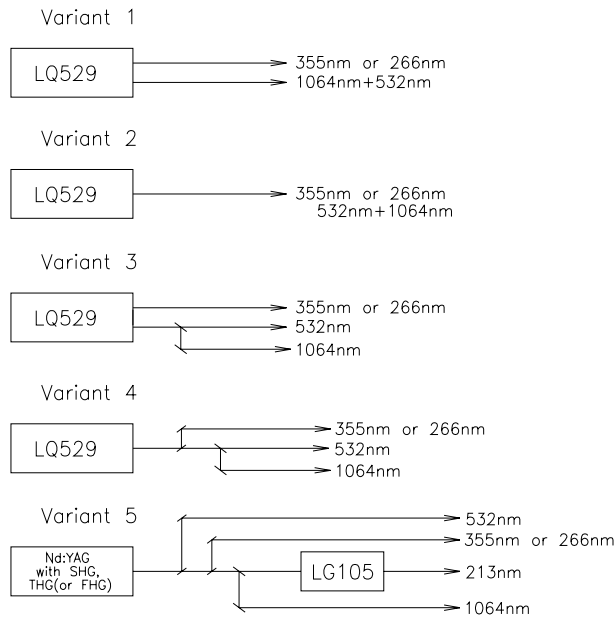




Different variants of the output wavelengths for Nd:YAG laser are shown below in the scheme 11.10 and scheme 12.1.



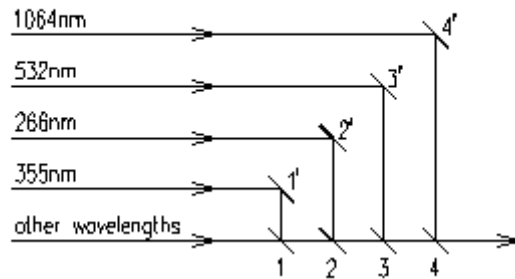
Scheme 12.1.



As additional options we can offer our Customer the following:

1. Beam matching module.

Beam matching module



2. Beam attenuators for the necessary wavelengths.



Hope that the mentioned above information will allow you to define necessary configuration of the laser system. Should you need any additional information please feel free to contact us.

Best regards,
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