Solo PIV

Nd:YAG Laser Systems

Solo PIV is a compact, dual laser-head system designed to provide a highly stable green light source for Particle Image Velocimetry (PIV) applications. It is ideally suited for most liquid and many air-based PIV experiments, and its small size provides excellent flexibility in setting-up such experiments.

Features

- **Small laser head requires minimum space**
- **Single power supply simplifies setup and enhances mobility**
- **High output energy**
  - 15 - 200 mJ at 532 nm
- **Highly flexible design with repetition rates**
  - From 1 to 15, 30, or 50 Hz, depending on model selected
- **Operating convenience provided through multiple triggering capabilities**
  - Continuous internal trigger
  - External TTL trigger
  - Single input pulse activating laser lamp and Q-switch
  - Separate pulses to control lamp & Q-switch independently for precise laser pulse timing control
- **Easy set up:**
  - Single power supply features internal, closed-loop cooling system
  - Operates on 95-240 VAC single phase source
- **Convenient operation made possible with:**
  - Remote positioning of a single power supply - saves valuable lab space
  - Local control panel on power supply with all system controls, including optional optical attenuator
  - Hi/Lo power switch permits energy reduction during optics alignment

Reliable Operation

- Thermally compensated resonator assures stable operation.
- Rugged I-Beam resonator design on Solo 120XT and Solo 200XT
- Requires minimal maintenance, increasing system up-time.
- Field-proven reliability permits users to concentrate on their applications, rather than on system upkeep.

Exceptional Performance

- Superior, proven design provides stable, high-energy output with excellent beam quality and pulse-to-pulse stability.
- Compact resonator design provides excellent beam pointing and energy stability.
- Predictable, high performance ensures that your work gets done faster.
- Solo 120XT and Solo 200XT design allows change over from 532 nm to 266 nm operation.

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Solo PIV Products

		Solo I-15	Solo II-15	Solo II-30	Solo III-15	Solo IV-50	Solo 120XT	Solo 200XT
Repetition Rate (Hz)		15	15	30	15	50	15	15
Energy[1,2] (mJ)	532 nm	15	30	30	50	50	120	200
	355 nm[5]	NA	NA	NA	NA	NA	30	45
	266 nm	NA	NA	NA	NA	NA	20	30
Energy Stability[2] (±%)	532 nm	4	4	4	4	6	4	4
	355 nm[5]	NA	NA	NA	NA	NA	7	7
	266 nm	NA	NA	NA	NA	NA	9	9
Beam Diameter (mm)		3	3	3	4	4	5	6
Pulse Width[3] (ns)		3-5	3-5	3-5	3-5	3-5	3-5	3-5
Divergence[4] (mrad)		< 3	<3	<3	<4	<5	<3	<4
Beam Pointing (urad)		<100	<100	<100	<100	<200	<100	<100
Jitter (±ns)[6]		1	1	1	1	1	1	1

1. Optical losses due to optional attenuator will reduce maximum energy by 10%.
2. Energy and pulse-to-pulse stability for 98% of shots after 30 minute warm up.
3. Full width half maximum.
4. Full angle for 86% of the energy, at $1/e^2$ point.
5. For single-head operation. Only one laser head may be optimized for 355 nm.
6. From Q-switch synch out to light pulse, 98% of 1000 shots.

Physical Characteristics

	Laser Head*			Power Supply		
	Solo I, II, III	**Solo IV Solo 120XT**	**Solo 200XT**	**Solo I, II, III**	**Solo 120XT**	**Solo IV Solo 200XT**
Length	13.775”/350 mm	22.4”/569mm	24.4”/620 mm	18.15” / 461 mm	19.0”/483 mm	21.2” / 538 mm
Width	7.0”/178 mm	9.24”/235 mm	9.24”/235 mm	7.77” / 194 mm	8.6”/218 mm	10.6” / 269 mm
Height	3.187”/81 mm	4.86”/123 mm	4.86”/123 mm	14.32” / 363 mm	15.0”/381 mm	15.16” / 385 mm
Weight	10 lbs./4.5 kg	34 lbs./15.5 kg	40 lbs./18.2 kg	48 lbs. / 22 kg	53 lbs/24 kg	53 lbs. / 24 kg
Length Umbilical	8 ft / 2.4 m	10 ft / 3 m	10ft / 3 m			

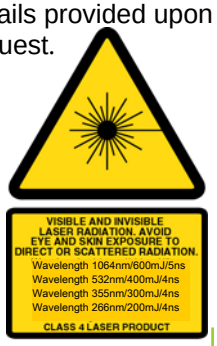
* Width and height include mounting plate

Operating Requirements

Temperature		50° - 86° F (10° - 30° C)
Relative Humidity		20—80% non-condensing
Voltage		95—240 V, 50/60 Hz
Power	Solo I, II, III	15 Hz-800 watts; 30 Hz-900 watts
	Solo 120XT	1000 watts
	Solo IV, Solo 200XT	1500 watts

Warranty

One year warranty, details provided upon request.



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