

FEATURES

- 22 J at 1064 nm
- 16 J at 532 nm
- Up to 5 Hz repetition rate
- Unmatched beam profile
- 1 or 2 beams
- Easy maintenance
- Computer control
- Single box compact design

INDUSTRIAL APPLICATIONS

- Laser shock processing
- Si annealing
- Large area ablation

SCIENTIFIC APPLICATIONS

- Ideal pump laser for ultrafast TW and PW systems

GAIA HP

Flashlamp-Pumped Nd:YAG Laser Series





GAIA HP

Flashlamp-pumped Nd:YAG laser series

16 J at 532 nm, 5 Hz: the best Nd:YAG technology available

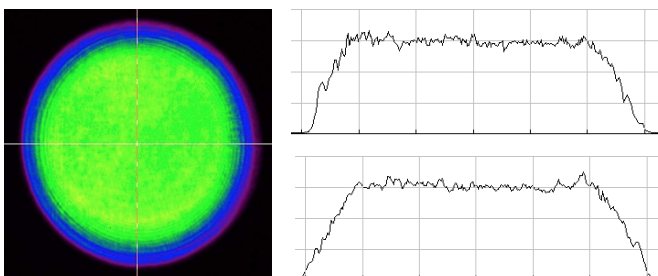
GAIA HP pushes forward the limits of output energy reachable at high repetition rates. This Nd:YAG laser delivers more than 22J at 1064 nm and 16J at 532 nm in a single beam with repetition rate of 5Hz.

Based on experience gained on SAGA architecture, its simple design offers the highest energy available at this repetition rate in a compact and modular single box. Its high reliability and easy maintenance together with high beam quality and high efficiency make it the best choice for cost-sensitive machines requiring ultimate performances in terms of energy and repetition rate.

Physical characteristics (Size*: H x W x L)

Power supply	182 (71.6) x 56 (22) x 78 (30.7)
Cooling unit	60 (23.6) x 44.5 (17.5) x 83 (32.7)
Laser Head	66 (26) x 103 (40.6) x 268.2 (105.6)

*Dimensions are given in cm (in)



Typical GAIA HP beam profile at 532 nm

Specifications

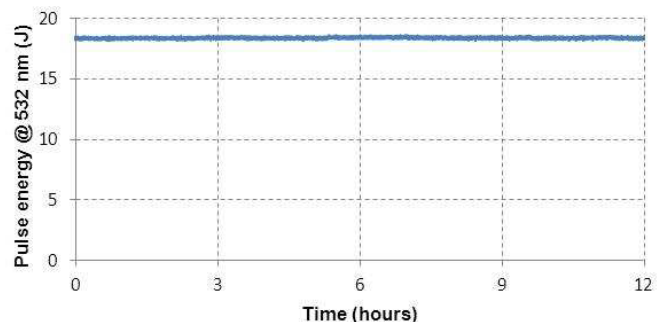
Wavelength (nm)	1064*	532*
Repetition rate (Hz)	Up to 5	Up to 5
Energy per pulse (J)	22	16
Pulse to pulse energy stability (% rms)	1	1.2
Pulse duration FWHM (ns)	2 pulses of 7-15	2 pulses of 7-15
Time jitter (ns)	+/- 1	+/- 1
Polarization	50% Vertical 50% Horizontal	Vertical
Beam diameter (mm)	~ 23	~ 23
Divergence (mrad)	0.15	0.15
Beam pointing stability (μrad)	+/- 50	+/- 50
Spatial beam profile (near field)	Top hat	Top hat
Power Consumption (@ 5 Hz) (kW)	23.5	23.5

* Available option: 2 output beams

Utilities and environment requirements

Voltage	208 – 230 VAC +/-5% single φ	
Frequency	50 – 60 Hz	
Water Flow	> 15 L/min	> 4 gal /min
Static pressure	3-5 bars	43.5-72 psi
Temperature	10-20°C	
Operating systems	Windows 98, 2000, NT, XP	

Long term stability @ 18J of GAIA HP green over 12 hours



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