

Premiumlite-YAG

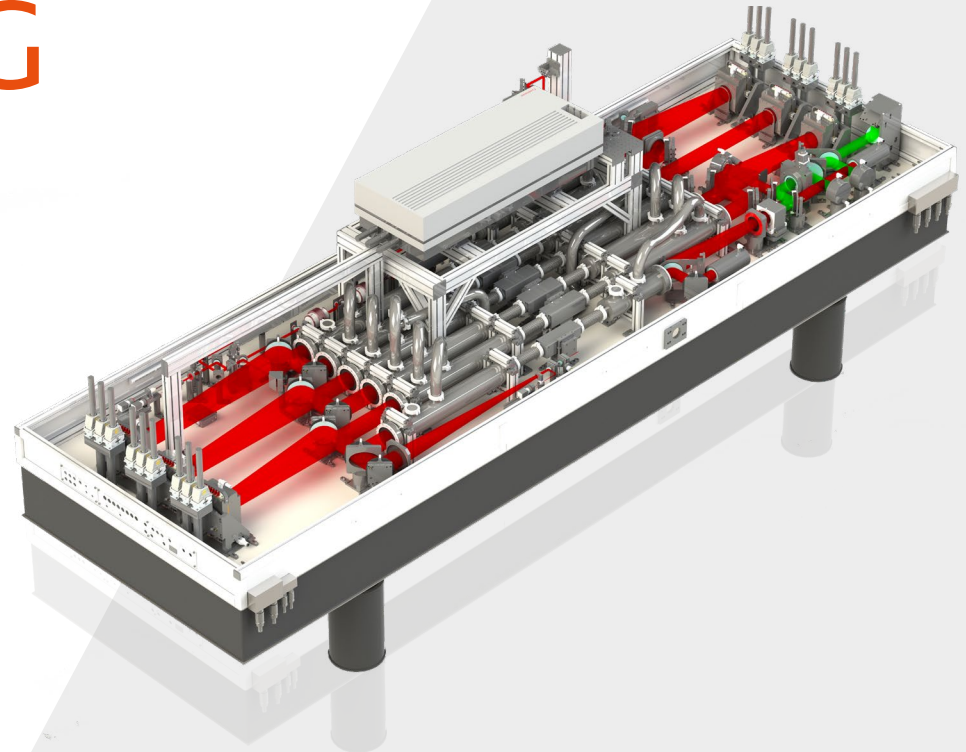
Flashlamp-pumped lasers

Kw-class Laser

The Premiumlite product line is based upon a Pseudo Active Mirror Disk Amplifier Module (PAMDAM). Unprecedented high energy and high average power are available on the market for the first time. In a single box, a single beam and a single pulse with up to 750 W average power at 10 Hz can be proposed. Noble materials such as stainless steel, gold and ceramic have been selected to ensure long-term reliable operation. The high homogeneity of the gain deposition in the PAMDAM results in a smooth top-hat beam profile.

The modular approach of the design permits easy upgrade of your laser in a short time schedule:

- any additional PAMDAM might increase your average power for higher throughput
- a set of options is available to match your special requirements.



Applications

Industry:

- > Laser peening and Laser forming (aircraft, automotive industry...)
- > Nuclear decontamination
- > Laser bond inspection (composite materials)

Science:

- > Ti:Sapphire pumping for PW and multi-PW Laser systems

Key Features

- > Greater than 75 J at 1064 nm
- > Greater than 55 J at 532 nm
- > Up to 10 Hz repetition rate
- > Ns and sub-ns pulsewidth
- > Unique offer by a commercial company

Specifications

Premiulite 30 Premiulite 40 Premiulite 50 Premiulite 60

Beam Profile	Round, Supergaussian order ≥ 20			
Beam Diameter @ $1/e^2$	44 mm \pm 2.5		55 mm \pm 2.5	
Disk Amplifier Modules (DAM)	3	4	5	6
Divergence	$\leq 500 \mu\text{rad}$			
Energy Per Pulse at 1064 nm	> 35 J	> 50 J	> 65 J	> 75 J
Energy Per Pulse at 532 nm	> 25 J	> 35 J	> 45 J	> 55 J
Long Term Mean Energy Stability	$\leq 3\%$ P-V over 8H (after warm-up time)			
Pulse To Pulse Energy Stability	< 1 % RMS at 1064 nm and < 1.5 % RMS at 532 nm			
Pulsewidth FWHM	6 ns \pm 2			
Jitter RMS	≤ 1 ns RMS			
Polarization	Linear or circular			
Pointing Stability	$\leq 50 \mu\text{rad}$ (at fixed rep-rate)			
Repetition Rate	Up to 10 Hz			

Dimensions

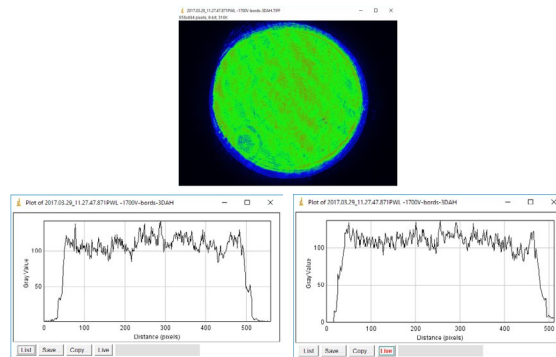
Optical Table LxW	4.8 x 1.5 m	15.8 x 4.9 ft
Table Thickness	30.5 cm	1 ft
Cabinet For Each DAM (HxLxW)	200 x 62 x 71 cm	6.6 x 2.1 x 2.4 ft
Cabinet For Front-end (HxLxW)	67 x 62 x 71 cm	2.2 x 2.1 x 2.3 ft

Weight

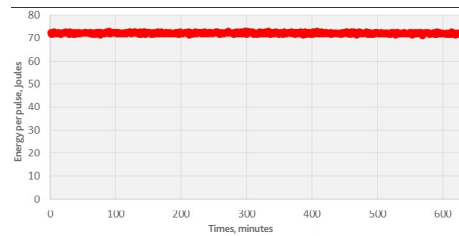
Table Weight	2500 kg	5512 lb
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Others

Frequency	Up to 10 Hz
Water Flow	1 x 10l/min + 25l/min per pair of DAM
Pressure	4 bars max
Temperature	8 - 12 °C
Electrical Plugs	1 (three phases + neutral + ground, 25 Amp) for each DAM, 1 (single phase + ground + neutral, 32 A), and 2 (single phase + ground, 16 A)



Horizontal beam profile and vertical beam profile at 1064 nm



Long term energy stability over 10 hours

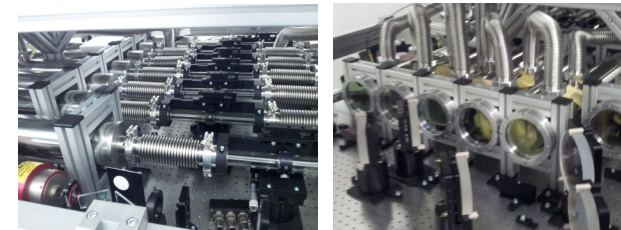


Image relay telescopes: high level of standardization

