

Picosecond Regenerative Amplifier



Applications

- Material processing
- Photocathode illumination
- Seeding amplifiers
- OPG / OPA pump
- Pump-probe experiments

Features

- Fully integrated seed laser and amplifier
- All diode-pumped
All solid-state
- Easy to use
- Customizable design
- Low maintenance



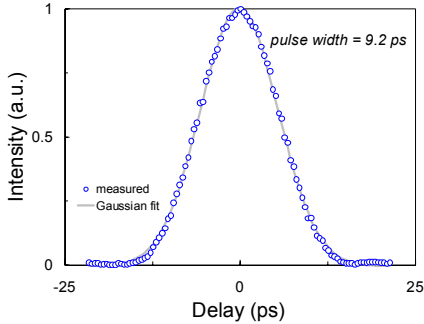
Options

- Clock synchronization
- Harmonic generation (SHG, THG, FHG)
- Multiple output beams
- Long-term pulse energy stabilization
- Remote control
- RS-232

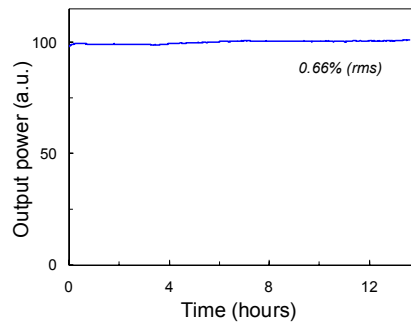
Jaguar - QCW	Jaguar - CW	
1.2 mJ	0.4 mJ	pulse energy
12 ps	25 ps	pulse width
1047 nm, 1053 nm	1064 nm	wavelength
0 Hz – 100 Hz	0 kHz – 4 kHz	repetition rate
TEM ₀₀	TEM ₀₀	spatial mode
1% rms	1% rms	stability
		(shot-to-shot)

SERIES | JAGUAR

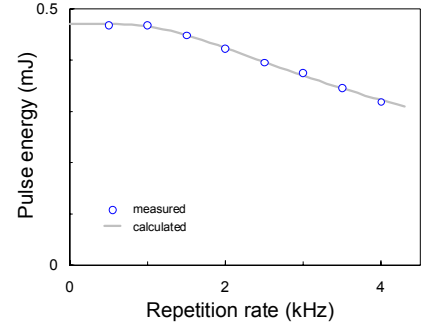
The JAGUAR regenerative amplifier system consists of a compact optical head, an electronic controller, and a thermoelectric closed-loop chiller. The optical head contains a fully integrated, passively mode-locked seed laser and a diode-pumped regenerative amplifier. The combination of diode-pumping and Time-Bandwidth Products' patented SESAM® technology results in clean, high-energy picosecond pulses with exceptional stability.



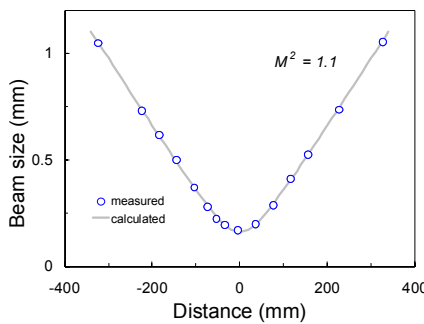
Typical autocorrelation trace of the JAGUAR-QCW output pulses



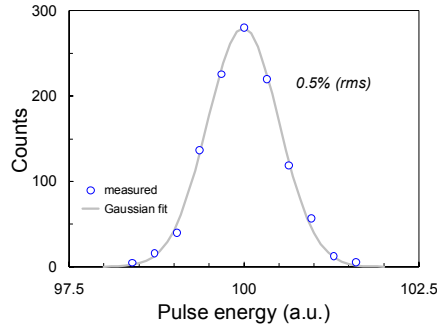
Average JAGUAR-QCW output power (long term)



Measured output pulse energy versus repetition rate for a JAGUAR-CW



Measured beam size versus propagation distance through a beam focus for a JAGUAR-CW. The calculated curve shows the dependence for a Gaussian beam with the indicated M^2 value.



Histogram of the output pulse energies for a JAGUAR-QCW (1100 shots) indicating <1% rms stability

The JAGUAR regenerative amplifier system features an all solid-state, one-box optical platform providing picosecond pulses with up to 100 MW peak power. The thorough design ensures high reliability and long life, keeping the system virtually maintenance free. The laser system is simple to install, easy to use and offers a range of options such as clock synchronization, efficient frequency conversion, and computer control.

Additional specifications

JAGUAR (all models)

turn-on time	10 min
M^2	1.3
voltage	100 VAC – 240 VAC
frequency	50 Hz – 60 Hz
input power (single phase)	1500 VA
laser head (size, weight)	930 mm x 620 mm x 270 mm, 60 kg
main controller (size, weight)	470 mm x 500 mm x 170 mm, 20 kg
pockels cell controller (size, weight)	442 mm x 446 mm x 192 mm, 9.5 kg
chiller (size, weight)	220 mm x 390 mm x 280 mm, 9.5 kg



Does the JAGUAR regenerative amplifier match your requirements? Please let us know the specifications of the laser you are looking for. A superior technology and a strong team enable us to tailor our products to your special needs.

All specifications are subject to change without notice. All numbers given in this datasheet are typical values and may depend on the specific laser configuration. SESAM is a registered trademark in the following countries: USA, Switzerland, United Kingdom, Germany, Austria, Netherlands, Belgium, Luxembourg, France, Italy, Russia, China, Liechtenstein, Estonia, and Lithuania. This product is protected by one or several of the following patents: US6,538,298, US6,466,604

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