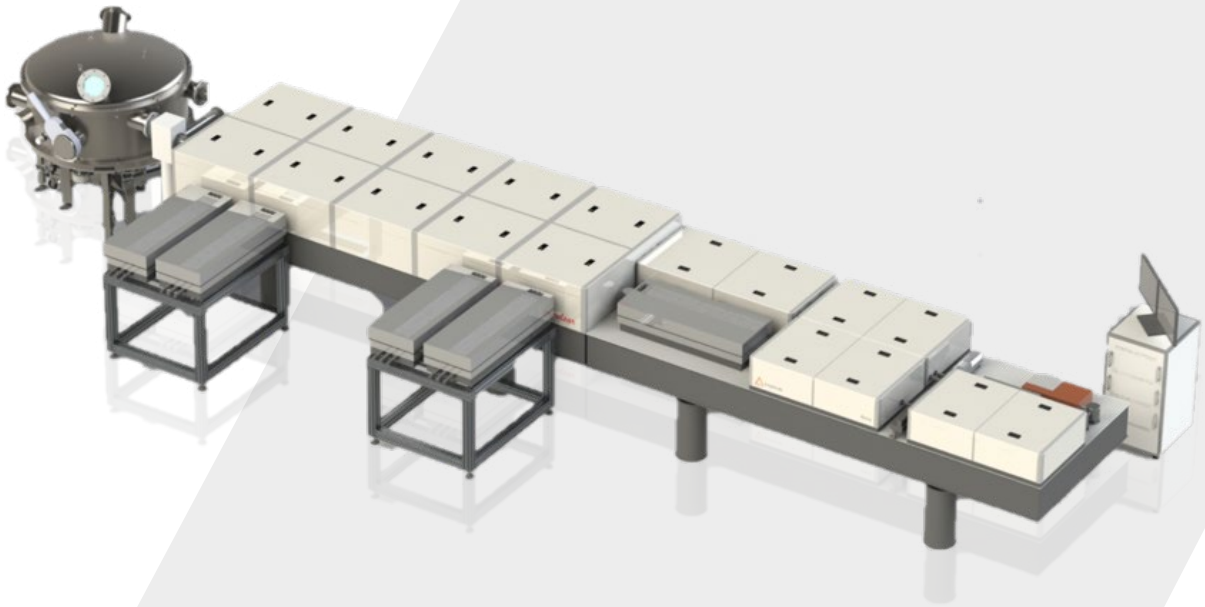
Pulsar TW

Ultra intense ultrafast laser



State-of-the-art Ultra Intense Ultrafast Lasers

Pulsar TW is the state-of-the-art high intensity lasers for high field science. It offers the best-in-class performance with industrial-grade reliability in a compact footprint. This laser family has been designed to ensure the highest temporal quality at both femtosecond and picosecond timescales. The beam quality is unmatched thanks to the optimal coupling between our high energy pump lasers and amplifiers. Pulsar TW reaches the highest intensities with unsurpassed energy and pointing stabilities.

Pulsar TW comes with an embedded, flexible and user friendly monitoring and control software to further enhance the user experience and system long term reliability.

The system versatility is expanded by a large offer of instrumentation and options for user specific needs.

Applications

Medical:
> X-Ray Imaging

Science:
> Particle accelerators
> Secondary sources

Key Features

> Up to 9 J
> Highest contrast ratio better than 10^{10} :1
> Up to 10 Hz repetition rate
> Ultra-short sub-20 fs pulses
> Readily upgradable
> Advanced Laser 4.0 HE laser control system
> Data logging

Amplitude

PULSAR: TW Class

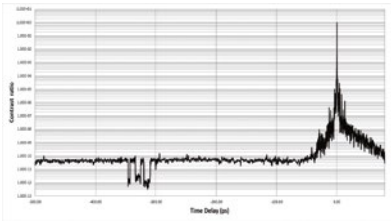
Specifications

	25	50	120	220	400
Repetition Rate (Hz)[1]	10	5	5 or 10		0.1
Peak Power (TW)	> 25	> 50	> 120	> 220	> 400
Energy Per Pulse (J)	> 0.5	> 1	> 2.7	> 5	> 9
Central Wavelength (nm)	800 ± 10				
Pulse Width (fs FWHM)[2]	< 20 fs		< 23 fs		
Pulse To Pulse Energy Stability (% RMS)	≤ 1.5%	≤ 1.2%		≤ 1.0%	≤ 1.5%
Nanosecond Contrast	10^{-8}				
Picosecond Contrast	10^{-4} @ < -1 ps				
	10^{-6} @ < -7 ps				
	10^{-7} @ < -20 ps				
ASE Contrast	10^{-10} @ < -100 ps				
Strehl Ratio[3]	> 0.9		> 0.85		
Pointing Stability (µrad RMS)[4]	< 10				

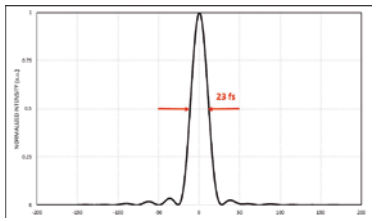
[1] Please contact the factory for other repetition rate
[2] Sub- 20 fs Ultra short pulse option available
[3] With Deformable mirror (in Option)
[4] Under stable controlled environment

Options

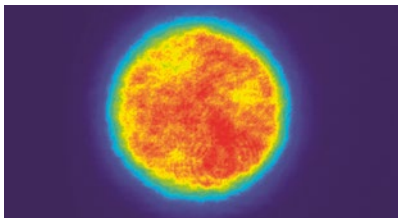
- External synchronization
- Laser 4.0 HE system control software
- Reduced repetition rate / single shot
- Energy attenuator
- Isolation of experimental refleceted beam
- Diode beam alignement



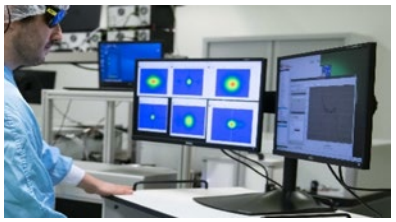
Pulsar 500 HR Sequoia contrast measurement



Pulsar 250 typical Wizzler pulse width measurement



Pulsar 60 typical Near Field beam profile at full energy



Laser 4.0 HE laser system control platform