

Magma

High energy compact & modular ultrafast lasers

A world's first

Magma is the world's first industrial-grade ultrafast laser platform delivering up to 500 mJ pulse energy in sub-picosecond, picosecond and nanosecond regimes. The diode-pumped technology opens the way to high repetition rate and high average power.

This modular platform allows customized and scalable configurations remotely controlled by Laser 4.0 HE. This control system is universal across the entire Amplitude scientific portfolio, enabling solutions with various laser combinations in large user facilities or specific dedicated applications

This solution is especially suited for compact and reliable secondary sources operating 24/7 such as Photoguns, X-Ray sources and THz sources.



Applications

Science:

- > X-Ray sources
- > THz sources
- > Photoguns
- > XUV sources
- > Laser ranging

Medical:

- > X-Ray Imaging
- > Flash therapy

Industry:

- > Non-destructive testing
- > Microprocessing

Key Features

- > High energy and average power
- > Compact and modular
- > Precise synchronization options
- > Frequency conversion from DUV to MIR
- > Flexible, upgradable, scalable
- > Designed for 24/7 operation

MAGMA

Specifications

	5	25	75	200	500
Pulse Energy (mJ)	5	25	75	200	500
Pulse Duration	< 400 fs to 10 ps		< 500 fs to 10 ps	< 600 fs to 10 ps	< 700 fs to 10 ps
Repetition Rate	Single shot to 300 Hz	Single shot to 1 kHz		Single shot to 100 Hz	
Central Wavelength	1030 nm +/- 5 nm	1030 nm +/- 1 nm			
Beam Quality	M2 < 1.3			M2 < 1.5	
Energy Stability - short term	< 0.3% rms		< 0.5% rms	< 1% rms	
Energy Stability - long term	0.5% rms		< 1% rms	< 1.5% rms	
Dimensions	75 x 50 x 22 cm	120 x 50 x 22 cm	125 x 120 x 22 cm	200 x 120 x 22 cm	400 x 150 x 30 cm
Cooling	Water cooling: water/water and air/water options				

Options



Synchronization



SHG / THG / FHG



Laser 4.0 HE

