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 picosecond or sub-picosecond regime. 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. This control system is universal across the entire Amplitude product line, enabling solutions with different 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
> Frequency conversion from DUV to MIR
> Burst mode option
> Designed for 24/7 operation

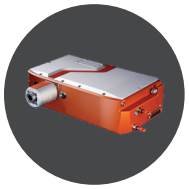
Amplitude

Specifications

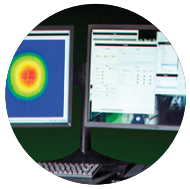
	Magma 2	Magma 5	Magma 25	Magma 75	Magma 200	Magma 500
Pulse Energy	2 mJ	5 mJ	25 mJ	75 mJ	200 mJ	500 mJ
Pulse Duration	< 500 fs to 10 ps	< 500 fs to 10 ps	< 2 ps to 10 ps	< 2 ps to 10 ps	< 500 fs to 10 ps	< 500 fs to 10 ps
Repetition Rate	Single shot to 5 kHz	Single shot to 300 Hz	Single shot to 1 kHz	Single shot to 100 Hz	Single shot to 50 Hz	Single shot to 50 Hz
Central Wavelength	1030 nm +/- 5 nm					
Beam Quality	$M^2 < 1,3$				$M^2 < 1,5$	
Energy Stability - short term	< 0,3 % rms				< 1 % rms	
Energy Stability - long term	< 0,5 % rms				< 1,5 % rms	
Dimensions	75 x 50 x 22 cm	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 cooled					

Options

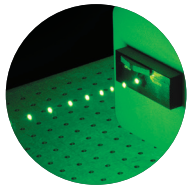
Synchronization



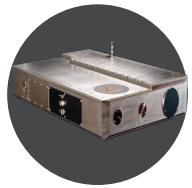
SHG / THG / FHG



Laser 4.0



Burst



Compress