

INTREPID

High Energy Nd:YAG

Pulse Shaping

Intrepid is a high energy pulsed laser system specifically tailored for pumping OPCPA amplifiers. The output of the laser is shaped to be spatially and temporally flat, uniformly amplifying the input chirped pulse across the entire waveform.

The Intrepid pulse can also be preferentially stressed to adjust for distortions on the seed pulse: Linear ramp, t^3 , multipulses pattern can be generated.

Intrepid is offered in a variety of output energies from mJ to hundreds of joules.

Pulse duration from 0.5 to 18 ns can be proposed.



Applications

Industry:

- > Laser peening

Science:

- > OPCPA pumping
- > Laser Driven Dynamic Compression
- > Laser fusion

Key Features

- > Programmable pulsewidths on a standard platform specifically designed for OPCPA pumping
- > Intelligent control architecture for comprehensive system management
- > Intuitive Graphical User Interface
- > Scalable architecture for the most demanding applications
- > Nd:glass versions up to 250 J @ 0.1 Hz @ 1053 nm and 200 J @ 527 nm are available

INTREPID

Specifications

	700	712	721	730	725	750
Type	Flash pumped Nd:YAG				Flash pumped Nd:Glass	
Repetition Rate	Up to 10 Hz				Up to 0.1 Hz	Up to 1 shot / min
Wavelength	532 nm or 1064 nm				527 or 1053 nm	
Pulse Duration	1 ns to 18 ns Temporally shapable					
Rise/Fall time	Option 1: typically 250 ps Option 2: typically 2.5 ns					
Pulse Energy ¹	5 mJ @ 532 nm 10 mJ @ 1064 nm	1J @ 532 nm 1.5J @ 1064 nm	3.5J @ 532 nm 5J @ 1064 nm	7J @ 532 nm 10J @ 1064 nm	17.5J @ 527 nm 20J @ 1053 nm	75J @ 527 nm 100J @ 1053 nm
Beam Diameter	~ 3.0 mm	~ 8.5 mm	~ 19.5 mm	~ 26 mm	~ 22 mm	~ 45 mm
Energy Stability	< 1.5 % RMS @ 1053-1064 nm					

¹ Energy given for highest pulse duration and square temporal profile

Dimensions

Optical Head* (L x W x H)	0.95 m x 2.5 m
Power Supply* (L x W x H)	0.8 m x 0.6 m x 1.8 m

* Size/Quantity may vary depending on system requirements

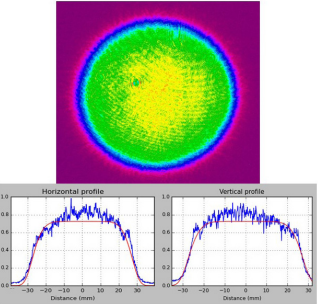
Water

Service	< 20 l / min
Temperature	10 to 20 °C

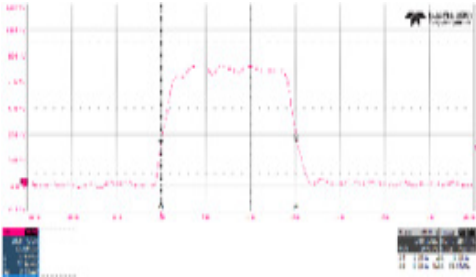
* Value may vary depending on system requirements

Other information

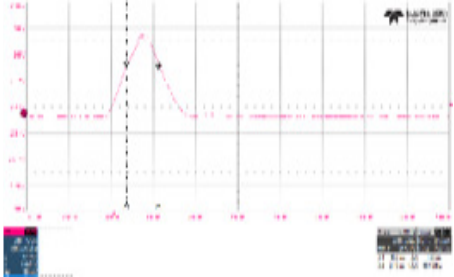
Electrical Service	200-240 VAC, 50/60 Hz single phase or 3 phases
Room Temperature	20 °C +/- 1 °C over 8 hours
Umbilical length	10 m (15 m on request)



Intrepid Beam Profile at 532 nm



15ns top hat profile 68J



1.5ns FWHM at 25J