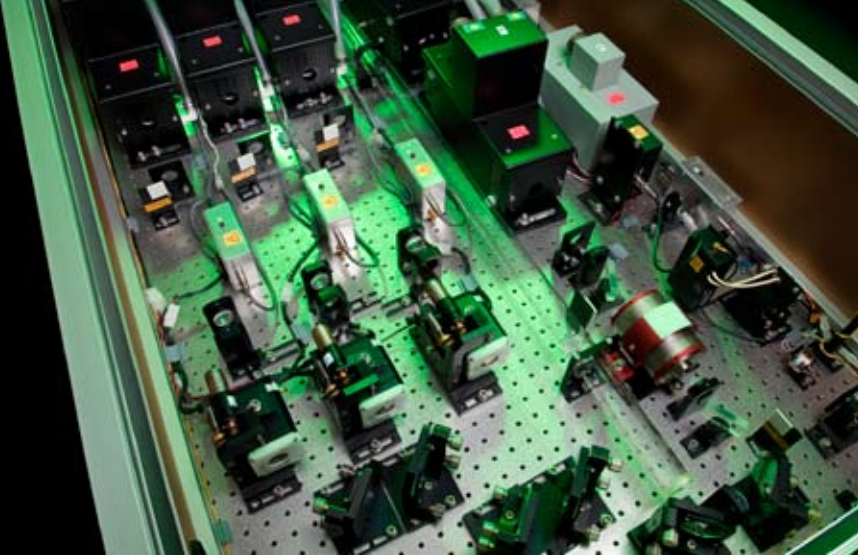


Constellation™



High Energy Nd:YAG
High Energy Nd:YAG
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High Energy Nd:YAG

High energy glass laser on a standard platform

Ideal pump source for Ti:Sapphire multipass amplifier systems

Intelligent control architecture for comprehensive system management

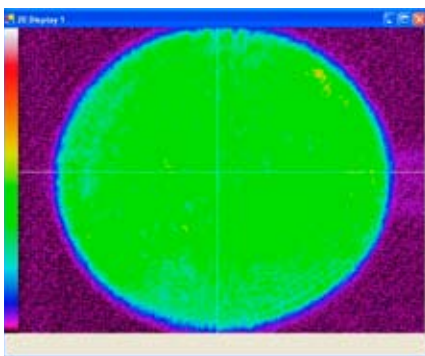
Intuitive Graphical User Interface with the ability to multiplex multiple Constellation systems under one user control interface

Ti:Sapphire Pump Sources

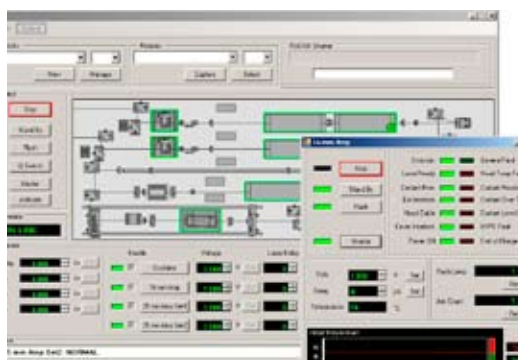
Constellation is a family of high energy glass laser systems optimized for pumping Ti:Sapphire amplifiers. The design is modular and conservative, delivering the best beam quality in the business. Each Constellation laser delivers 25J of energy in a clean, super-gaussian beam line. The Constellation II has two 527nm beams of 12.5J each and is the more cost-effective solution. The Constellation III has three 527nm beams of 8.33J each and offers higher repetition rates.

Both systems offer excellent beam quality and stability. This lowers the possibility of damage to downstream optics, including the harmonic generators and Ti:Sapphire amplifiers.

The Constellation system is modular and can be customized to meet your exact needs. Please contact your local Continuum sales representative for more information.



Constellation Beam Profile, 8.3 J of green



Constellation GUI

Constellation Specifications

Description	Constellation II	Constellation III
Wavelength	527 nm	527 nm
Energy (total)	25 J	25 J
Number of beams	2	3
Repetition rate	1/min	0.1 Hz
Beam diameter (each)	25 mm	19 mm
Beam divergence	<1 (mrad)	<1 (mrad)
Pulse duration	35 ns nominal	35 ns nominal
Polarization ratio	100:1 vertical	100:1 vertical
Pointing stability	±50 µrad	±50 mrad
Shot to shot stability	<2.5% RMS	<2.5% RMS
Long term stability	<10% over 8hr ±1°C change in ambient	<10% over 8hr ±1°C change in ambient
Spatial profile	top hat, 15% RMS 80% of beam	top hat, 15% RMS 80% of beam

Notes

Measuring spatial profile

The beam will be relay imaged on to a CCD camera and a lineout created. The FWHM will define the beam size and the center of the HM line will define the center of the beam. Statistics performed on any contiguous 20% block of the beam. No block will exhibit more than ±15% RMS of peak to peak from the mean of this block.

As a part of Continuum's ongoing improvement program, all specifications are subject to change without notice.

Constellation System Requirements

Size	Optical Head (LxWxH)	
	Constellation II	2,438 mm x 1,219 mm x 610 mm (96" x 48" x 24")
	Constellation III	2,438 mm x 914 mm x 610 mm (96" x 36" x 24")
	Power Supply (LxWxH)	
	Constellation II	622 mm x 711 mm x 1,207 mm (24.5" x 28" x 47.5"), total of 4
	Constellation III	622 mm x 711 mm x 1,207 mm (24.5" x 28" x 47.5"), total of 5
Water	Service	closed loop water to water heat exchanger: external cooling water required. temperature <25° C
	Constellation II	2-4 GPM (gallons/minute) at 10 - 40 PSI pressure drop
	Constellation III	3-6 GPM (gallons/minute) at 10 - 40 PSI pressure drop
Electrical Service		220 V, 3-phase, 60 Hz
Room Temperature		20 to 25° C / 68 to 77° F; stability ±1° C/8 hr
Umbilical Length		1.5 m (5 ft)

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