

Inspire™ Blue

Automated Frequency Doubler
for Ti:Sapphire Lasers

mks | Spectra-Physics

The Spectra-Physics® Inspire Blue is an innovative, easy to use and reliable doubling unit that efficiently converts the IR emission of Ti:Sapphire lasers (690–1040 nm) into the near-UV and visible wavelength range (345–520 nm).

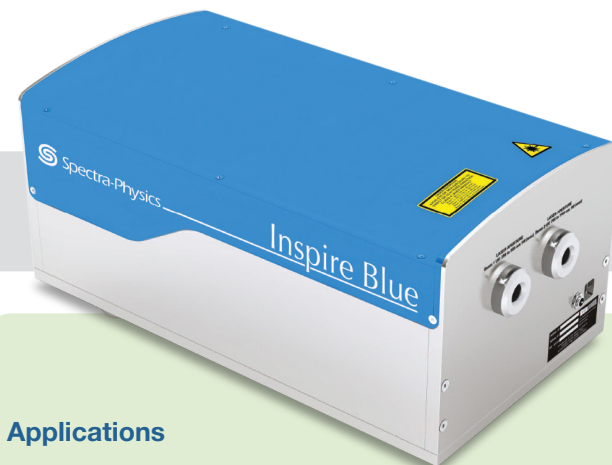
Based on novel nonlinear technology, the Inspire Blue doubler provides exceptional beam quality, high conversion efficiency and reduced pulse broadening. The unit is available in both manual and automated versions and is compatible with the Spectra-Physics Mai Tai® HP femtosecond output as well as the Spectra-Physics Tsunami® HP femtosecond and picosecond outputs.

The Inspire Blue doubler also features synchronized outputs—the converted output in the near-UV and visible wavelength range (345–520 nm) and the unconverted fundamental output in the IR range (690–1040 nm)—enabling use of both beams in simultaneous experiments. Complete wavelength coverage is achieved with a single optics set to increase flexibility.

The Inspire Blue doubling unit is an excellent tool for a wide range of applications requiring femtosecond light pulses at MHz repetition rates.

The Inspire Blue Advantage

- Femtosecond and picosecond versions
- Highest conversion efficiency
- Excellent beam quality
- Broad wavelength coverage with a single set of optics
- Simultaneous IR and UV output



Applications

- Non-linear spectroscopy
- Quantum optics
- Biochemistry
- Biophotonics

Inspire Blue Specifications^{1, 4}

	Inspire Blue
Output Characteristics²	
Pulse Width	<150 fs @ 860 nm (95 fs pump pulse)
Tuning Range ³	345–520 nm
Conversion Efficiency	45% @ 820 nm (2.5 W pump power)
Repetition Rate	80 MHz
Spatial Mode	Gaussian (TEM ₀₀)
Tuning Mechanism	Angle rotation
Operation	Manual and Fully Automated versions
Dimensions (W x L x H)	7.9 x 14.3 x 6.1 in (200 x 364 x 155 mm)

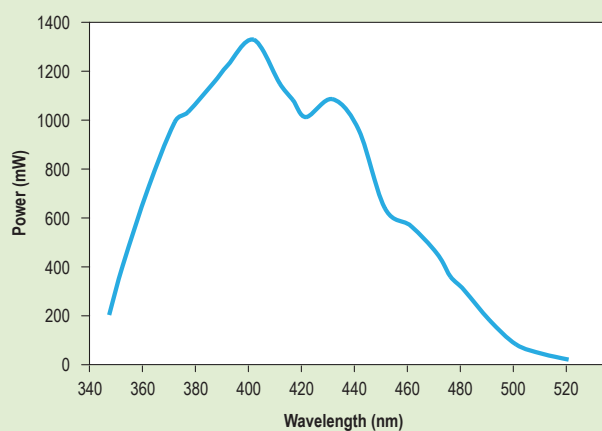
1. Specifications are subject to change without notice.

2. When pumped by Spectra-Physics Mai Tai HP

3. Up to 540 nm when pumped by Spectra-Physics Tsunami HP.

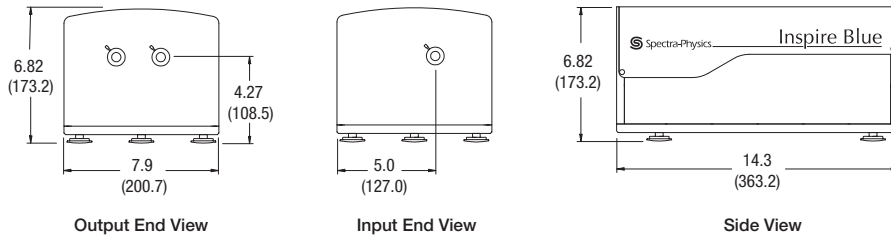
4. The Inspire Blue is a Class IV – High Power Laser, whose beam is, by definition, a safety and fire hazard. Take precautions to prevent exposure to the direct and reflected beams. Diffuse as well as specular reflections can cause severe skin or eye damage.

Typical Performance with Mai Tai HP¹



1. Typically measured performance; not a guaranteed or warranted specification.

Inspire Blue Dimensional Drawing



Dimensions in inch (mm)



Manufactured by Radiantis



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