

Femtosecond OPO for Ti:Sa Oscillators

Hands-Free Optical Parametric Oscillator Across 345 - 2500 nm ($4000 - 28985 \text{ cm}^{-1}$)



Inspire



 **Spectra-Physics** official partner.

KEY FEATURES

- Gap-free tuning across the UV, Visible and IR 345-2500 nm ($4000 - 28985 \text{ cm}^{-1}$) with a single configuration and without any change of optics.
- Simultaneous UV, Visible and IR outputs.
- Average Power: $>350 \text{ mW}$
- Pulse Duration: $<200 \text{ fs}$
- Repetition Rate: 80 MHz

APPLICATIONS

- Linear & Non-Linear Spectroscopy & Microscopy (SHG, THG, Two-Photon, Multiphoton)
- Plasmonics.
- Pump-Probe Spectroscopy.
- Raman Spectroscopy & Microscopy. (CARS, SRS).
- Time-Resolved Spectroscopy & Microscopy. (FLIM, TR-FRET, TCSPC)

Description

Empower your research, using **the Visible, UV and IR femtosecond pulses** provided by the family of synchronously-pumped Optical Parametric Oscillators (OPOs), Inspire.

Based on Radiantis patented technology, Inspire delivers near-transform-limited pulses with high average power across the spectral range of 345–2500 nm (4000 - 28985 cm⁻¹), gap-free. With a single set of optics and just one standard configuration, the unique design of the Inspire offers best-in-class access to the complete spectral range, eliminating the need of change in configuration and ensuring simultaneous access to the Visible and IR.

The Inspire is available with both hands-free technology (the Inspire HF) and, for greater flexibility, as an automatic device (the Inspire Auto). The former providing computer-controlled tuning across the full spectral range and self-calibration, and the latter allowing adjustment of the pulse duration and enhanced functionality for multiple applications.

The Inspire is also tuned at room temperature, thereby avoiding the need for ovens, water-cooling units and pipes inside the OPO cavity.

Specifications¹

Output Characteristics ²	Inspire Auto 50	Inspire Auto 100	Inspire HF 50	Inspire HF 100
Average Power				
SHG @ 400 nm (25000 cm ⁻¹)	n/a	1100 mW	n/a	1100 mW
Signal @ 550 nm (18181 cm ⁻¹)	350 mW	350 mW	350 mW	350 mW
Depleted Fundamental @ 800 nm	1100 mW	1100 mW	1100 mW	1100 mW
Idler (at peak)	170 mW	170 mW	170 mW	170 mW
Pulse Width				
SHG	n/a	<140 fs	n/a	<140 fs
Signal	100 - 250 fs (adjustable)	100 - 250 fs (adjustable)	200 fs	200 fs
Depleted Fundamental	<140 fs	<140 fs	<140 fs	<140 fs
Idler	80 - 250 fs (adjustable)	80 - 250 fs (adjustable)	200 fs	200 fs
Tuning Range				
SHG	n/a	345 - 520 nm (19230 - 28985 cm ⁻¹)	n/a	345 - 520 nm (19230 - 28985 cm ⁻¹)
Signal (Simultaneous with Idler)	490 - 750 nm (13333 - 20408 cm ⁻¹)	490 - 750 nm (13333 - 20408 cm ⁻¹)	490 - 750 nm (13333 - 20408 cm ⁻¹)	490 - 750 nm (13333 - 20408 cm ⁻¹)
Depleted Fundamental	690 - 1040 nm (9615 - 14492 cm ⁻¹)	690 - 1040 nm (9615 - 14492 cm ⁻¹)	690 - 1040 nm (9615 - 14492 cm ⁻¹)	690 - 1040 nm (9615 - 14492 cm ⁻¹)
Idler (Simultaneous with Signal)	930–2500 nm (4000 - 10752 cm ⁻¹)	930–2500 nm (4000 - 10752 cm ⁻¹)	930–2500 nm (4000 - 10752 cm ⁻¹)	930–2500 nm (4000 - 10752 cm ⁻¹)
Repetition Rate	80 MHz			
Noise	<1% rms			
Wavelength Stability @ 555 nm	<0.5 nm			
Polarization	Horizontal for Signal and Idler, Vertical for SHG			
Spectrometer for UV and Visible Range ³	350–900 nm (integrated into optics unit)			
Size (W x L x H) ⁴	14.2 x 37.6 x 9.1 in (36.0 x 95.4 x 23.2 cm)			

Notes:

¹ Specifications are subject to change without notice.

² Pumped by Mai Tai® HP Ti:sapphire oscillators, 2.8W, 100fs, 820nm. Output characteristics for alternative pump lasers, such as Tsunami™ are available upon request.

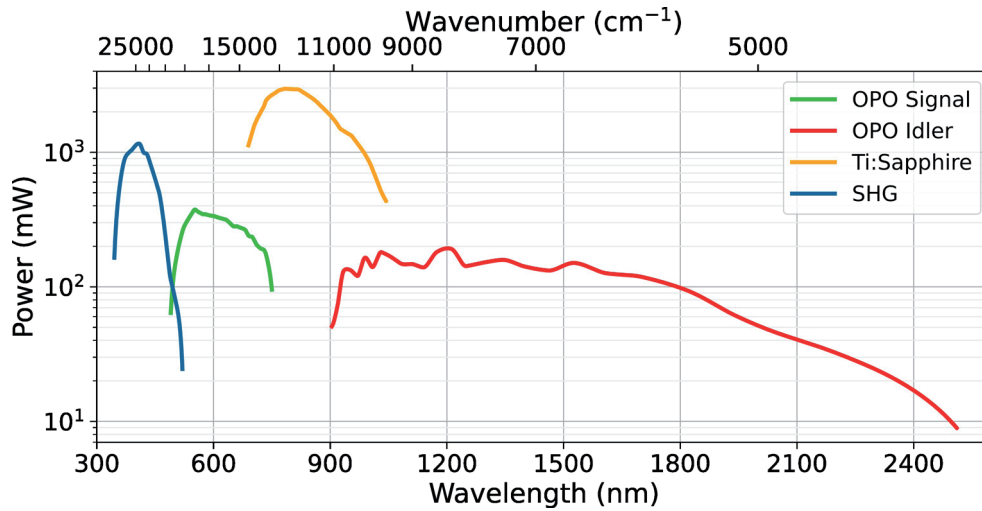
³ IR spectral region available upon request.

⁴ PC controllable. No control electronics unit required.



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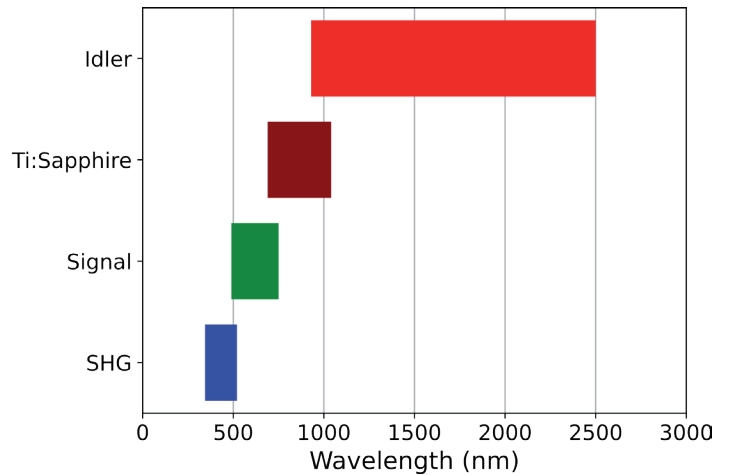
Idler Typical Tuning Curve



Inspire Wavelength Coverage

Outputs Ports

Four separate output ports provide the class-leading spectral coverage, consisting of the doubled pump [345 - 520 nm (19230 - 28985 cm^{-1})], signal [490 - 750 nm (13333 - 20408 cm^{-1})], idler [930 - 2500 nm (4000 - 10752 cm^{-1})] and depleted pump [640 - 1040 nm (9615 - 14492 cm^{-1})].



Dimensions

