

## Laser Source for Advanced Nonlinear Microscopy



High pulse energy for deep imaging

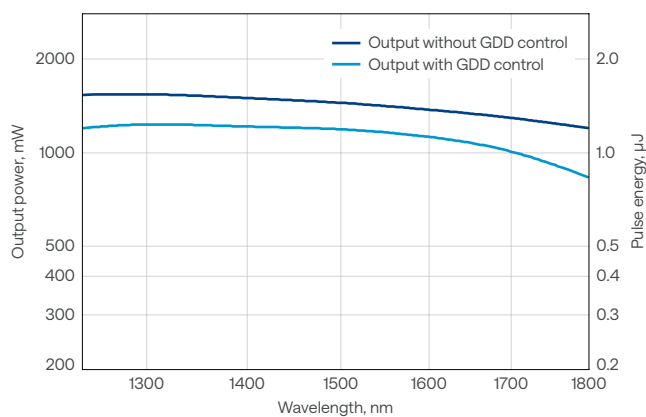
1250 – 1800 nm tuning range for 3P imaging

Down to 50 fs pulse duration for high peak power

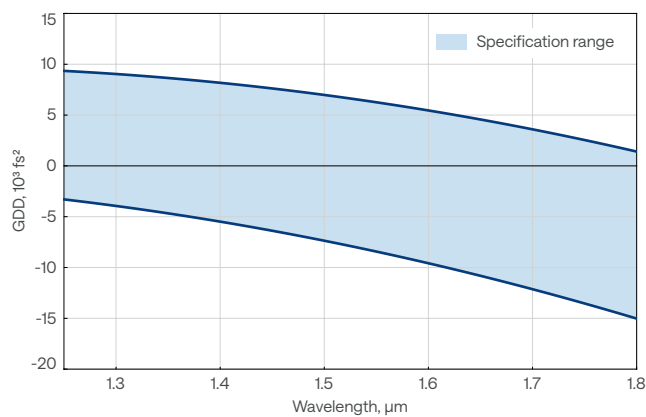
Automated wavelength and GDD control for optimal signal

Market-leading pulse-to-pulse energy stability

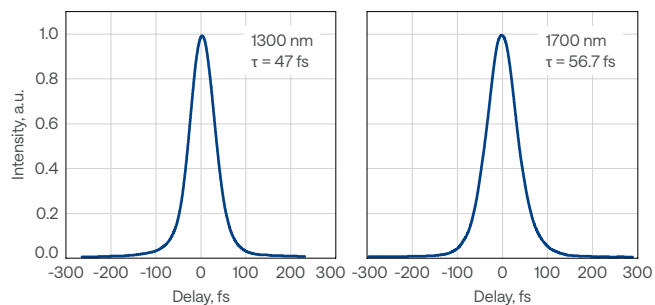
CRONUS-3P output power and pulse energy vs wavelength, at 1 MHz



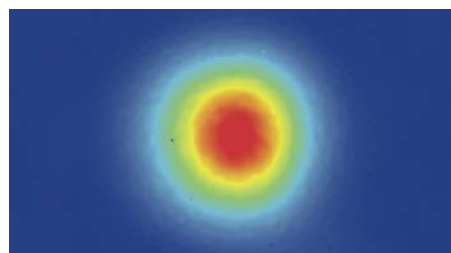
CRONUS-3P GDD control range



CRONUS-3P typical pulse duration at 1300 nm and 1700 nm



CRONUS-3P beam profile at 1300 nm



# Specifications

Model	CRONUS-3P		CRONUS-3P with power control	
Tuning range	1250 – 1800 nm			
Repetition rate <sup>1)</sup>	Single-shot – 1 MHz or 2 MHz			
	1300 nm	1700 nm	1300 nm	1700 nm
Pulse duration	< 50 fs	< 65 fs	< 50 fs	< 65 fs
Output power	> 1100 mW @ 1 MHz > 800 mW @ 2 MHz	> 800 mW @ 1 MHz > 500 mW @ 2 MHz	> 1000 mW @ 1 MHz > 700 mW @ 2 MHz	> 700 mW @ 1 MHz > 400 mW @ 2 MHz
GDD control range <sup>2)</sup>	-4 000 to +9 000 fs <sup>2</sup>	-12 000 to +3 500 fs <sup>2</sup>	-4 000 to +9 000 fs <sup>2</sup>	-12 000 to +3 500 fs <sup>2</sup>
Beam diameter <sup>3)</sup>	2 – 4 mm			
Beam quality, M <sup>2</sup>	< 1.2			
Beam ellipticity	> 0.8			
Beam divergence	< 1 mrad			
Beam pointing stability	< 100 µrad			
Long-term power stability, 24 h <sup>4)</sup>	< 1%			
Pulse-to-pulse energy stability, 1 min <sup>4)</sup>	< 1%			

## MAIN OUTPUT WITHOUT GDD CONTROL

Output power <sup>5)</sup>	> 1500 mW @ 1 MHz > 1000 mW @ 2 MHz	> 1050 mW @ 1 MHz > 700 mW @ 2 MHz	n/a
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## ADDITIONAL OUTPUTS

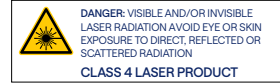
Auxiliary 1030 nm amplifier output	1030 ± 10 nm, up to 40 W, up to 2 MHz, < 250 fs
Optional 680 – 920 nm amplifier output	680 – 920 nm, > 1500 mW @ 1 MHz or > 1000 mW @ 2 MHz (@ 920 nm), < 290 fs (compressible to < 50 fs) <sup>6)</sup>
Optional 1030 nm oscillator output	1030 ± 10 nm, up to 500 mW, ≈ 65 MHz, ≈ 200 fs

## ENVIRONMENTAL REQUIREMENTS & DIMENSIONS

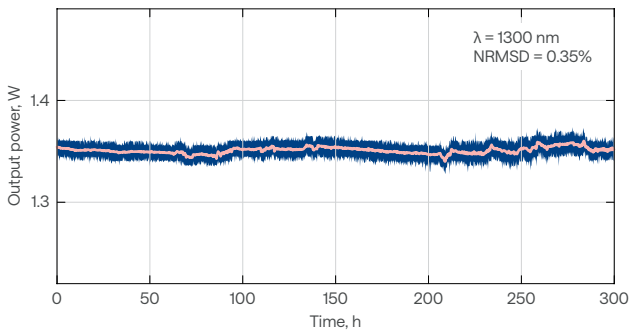
Refer to [www.lightcon.com](http://www.lightcon.com)

- <sup>1)</sup> Lower repetition rate with a higher pulse energy option available.  
<sup>2)</sup> Continuous dispersion control; -4000 fs<sup>2</sup> compensates a microscope with +4000 fs<sup>2</sup>.  
<sup>3)</sup> 1/e<sup>2</sup>, measured at compressor output.  
<sup>4)</sup> Expressed as normalized root mean squared deviation (NRMSD).

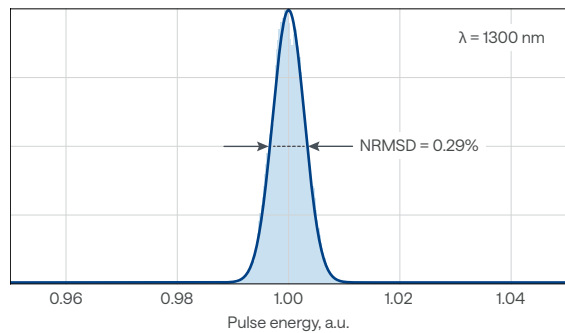
- <sup>5)</sup> Available only for v1. Contact [sales@lightcon.com](mailto:sales@lightcon.com) for more details.  
<sup>6)</sup> With external compressor without GDD control, < 70% transmission at 920 nm.



CRONUS-3P typical long-term power stability at 1300 nm



CRONUS-3P typical pulse-to-pulse energy distribution at 1300 nm



## Drawings

CRONUS-3P drawing

