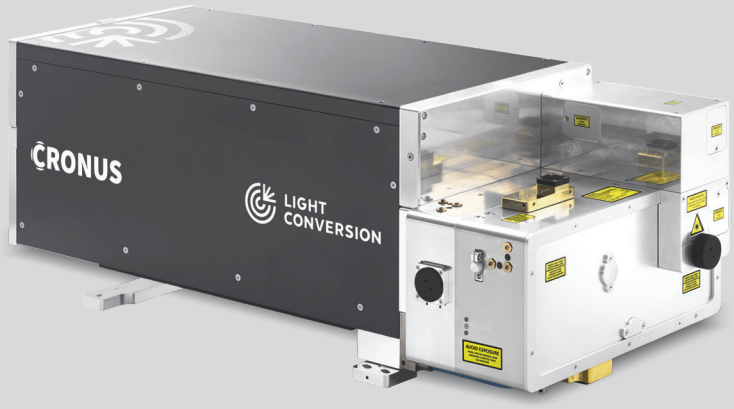
CRONUS | 3P

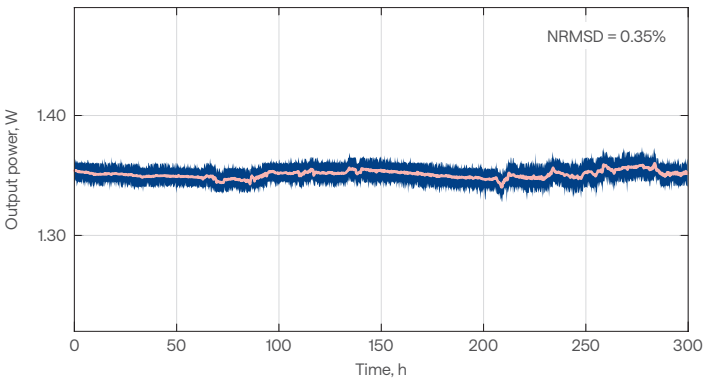
Femtosecond Laser for Advanced Nonlinear Microscopy

- 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
- Maintenance-free single-box solution

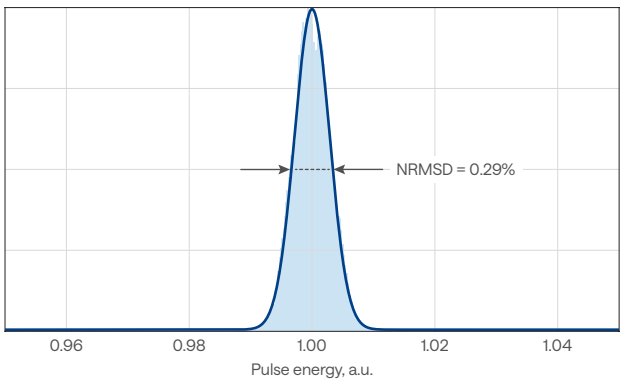


Stability

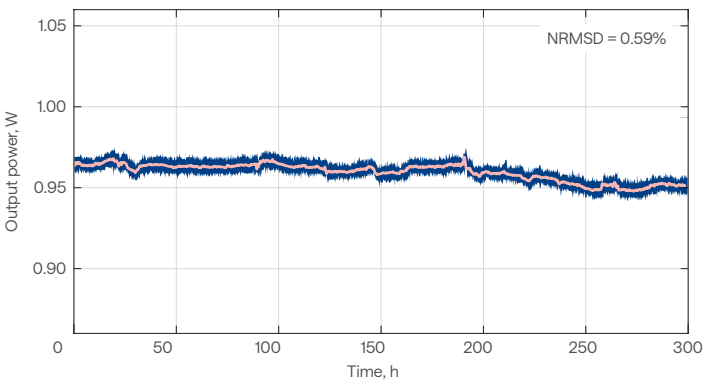
CRONUS-3P
Typical long-term power stability at 1300 nm



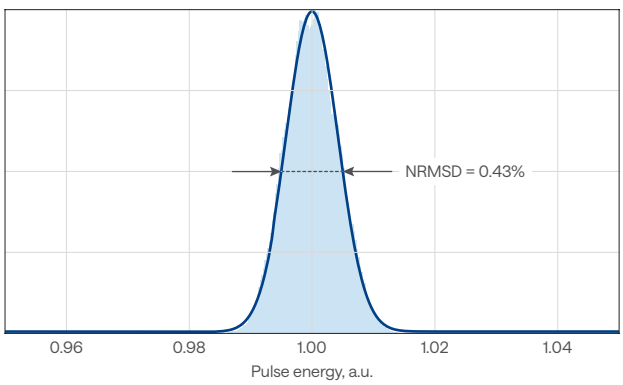
CRONUS-3P
Typical pulse-to-pulse energy distribution at 1300 nm



CRONUS-3P
Typical long-term power stability at 1700 nm



CRONUS-3P
Typical pulse-to-pulse energy distribution at 1700 nm



Specifications

NEW

Model	CRONUS-3P		CRONUS-3P-HP [1]	
Power control	No	Yes	No	Yes
Tuning range	1250 – 1800 nm			
Repetition rate [2]	Single-shot – 1 MHz or 2 MHz			
Output power @ 1 MHz [3]	> 1100 mW @ 1300 nm > 800 mW @ 1700 nm	> 1000 mW @ 1300 nm > 700 mW @ 1700 nm	> 2000 mW @ 1300 nm > 1500 mW @ 1700 nm	> 1900 mW @ 1300 nm > 1400 mW @ 1700 nm
Pulse duration [4]	< 50 fs @ 1300 nm < 65 fs @ 1700 nm		< 55 fs @ 1300 nm < 80 fs @ 1700 nm	
GDD control range [5]	−4500 to +500 fs² @ 1300 nm −12 000 to +3500 fs² @ 1700 nm			
Beam diameter [6]	1.5 – 4 mm			
Beam quality, M^2	< 1.2			
Beam ellipticity	> 0.8			
Beam divergence	< 1 mrad			
Long-term power stability, 24 h [7]	< 1%			
Pulse-to-pulse energy stability, 1 min [7]	< 1%			

ADDITIONAL OUTPUTS

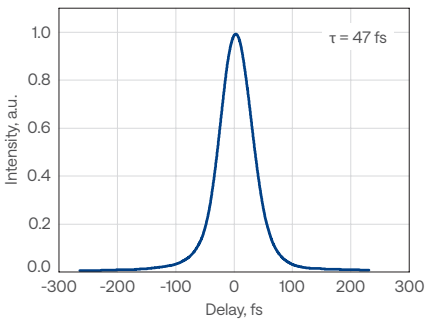
Auxiliary 1030 nm amplifier output	1030 ± 10 nm, up to 40 W, up to 2 MHz, < 250 fs	1030 ± 10 nm, up to 80 W, up to 2 MHz, < 250 fs
Optional 680 – 920 nm amplifier output	680 – 920 nm, > 1500 mW @ 1 MHz or > 1000 mW @ 2 MHz (@ 920 nm), < 290 fs (compressible to < 50 fs) [8]	n/a
Optional 1030 nm oscillator output	1030 ± 10 nm, up to 500 mW, ≈ 65 MHz, ≈ 200 fs	

ENVIRONMENTAL & UTILITY REQUIREMENTS, DIMENSIONS

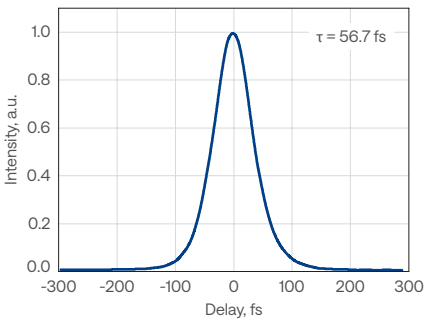
Refer to lightcon.com

[1] *680 – 920 nm output is not available for the higher power version.*
[2] *Lower repetition rate with a higher pulse energy option available.*
[3] *Contact sales@lightcon.com for power specifications at 2 MHz.*
[4] *Pulse duration determined assuming a Gaussian shape.*
[5] *Continuous dispersion control; −4000 fs² compensates a microscope with +4000 fs².*
[6] *1/e², measured at compressor output.*
[7] *Expressed as normalized root mean squared deviation (NRMSD).*
[8] *With external compressor without GDD control, > 70% transmission at 920 nm.*

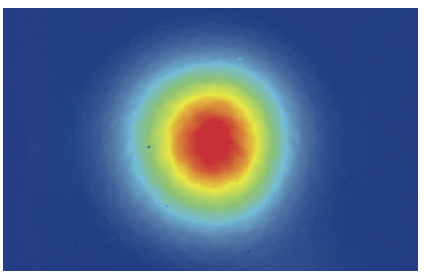
CRONUS-3P
Typical pulse duration at 1300 nm



CRONUS-3P
Typical pulse duration at 1700 nm

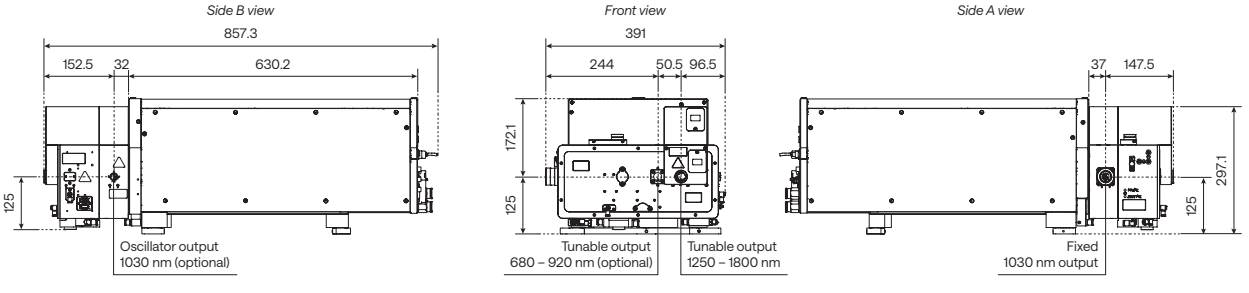


CRONUS-3P
Typical beam profile at 1300 nm



Drawings

CRONUS-3P



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