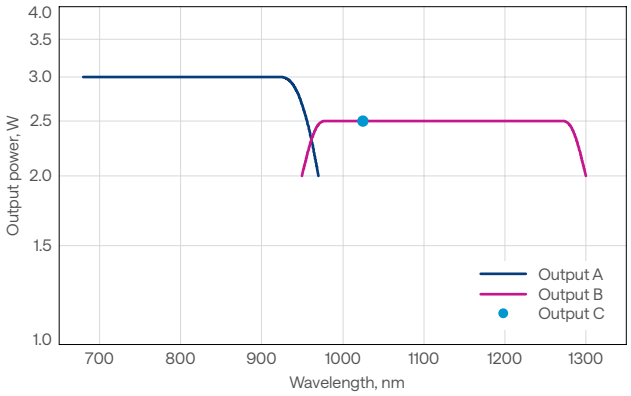
CRONUS | 2P

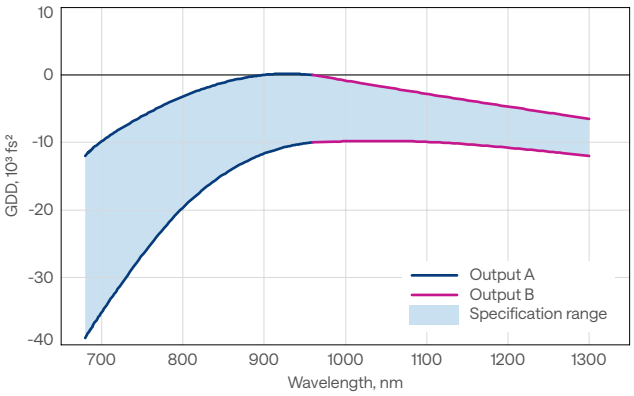
High-Repetition-Rate Wavelength-Tunable Femtosecond Laser

- Watt-level output at high repetition rates for fast imaging
- Two tunable and one fixed output for simultaneous multibeam excitation
- Automated GDD control for shortest pulses at the sample
- Feedback-based output power and wavelength stabilization
- Beam steering & power locking

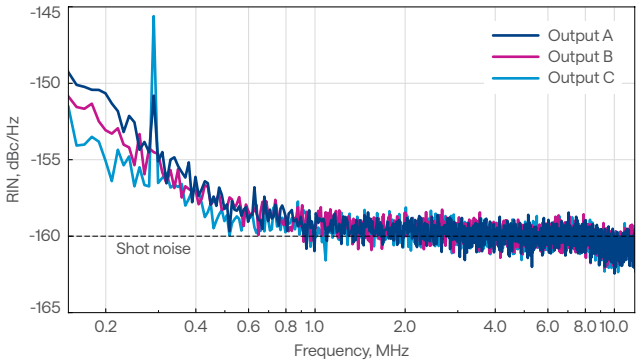
CRONUS-2P tuning curve



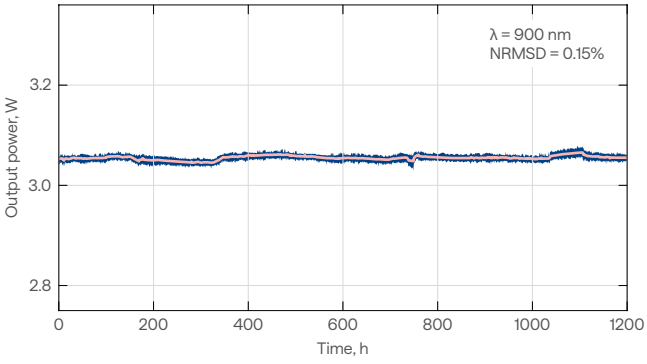
CRONUS-2P GDD control range



CRONUS-2P relative intensity noise (RIN)



CRONUS-2P typical output power stability at 900 nm



Specifications

Model	CRONUS-2P		
	Output A	Output B	Output C
Tuning range [1]	680 – 960 nm	940 – 1300 nm	1025 ± 10 nm (fixed)
Output power [2] [3]	> 3 W @ 920 nm	> 2.5 W @ 1100 nm	> 2.5 W
Pulse duration [4] [5]	< 160 fs		
Repetition rate	77 ± 1 MHz		
Beam quality, M^2 [3] [4]	< 1.2		
Polarization	Linear, horizontal		
Beam divergence, full angle	< 1 mrad		< 1.5 mrad
Beam diameter, $1/e^2$ [4]	3.0 ± 0.4 mm	3.2 ± 0.4 mm	2.8 ± 0.4 mm
Beam ellipticity [4]	> 0.8		
Beam astigmatism [4]	< 20%		
Beam pointing stability [6]	< 200 µrad		n/a
Long-term power stability, 24 h [4] [7]	< 1%		
GDD control range	−10 000 to −35 000 fs^2 @ 700 nm −3000 to −20 000 fs^2 @ 800 nm 0 to −10 000 fs^2 @ 920 nm	0 to −10 000 fs^2 @ 960 nm −3000 to −10 000 fs^2 @ 1100 nm −8000 to −12 000 fs^2 @ 1300 nm	n/a

OPTIONAL POWER CONTROL

Output power [8]	> 2 W @ 920 nm	> 2 W @ 1100 nm	> 1.5 W
Rise/fall time [9]	< 300 ns		
Contrast ratio	1000 : 1		
GDD control range	0 to −6500 fs^2 @ 920 nm	0 to −10 000 fs^2 @ 1100 nm	n/a

OPTIONAL WAVELENGTH EXTENSIONS (UV – VIS)

Second harmonic tuning range	340 – 480 nm [10]	480 – 650 nm [10]	n/a
Conversion efficiency at peak	> 30%		

ENVIRONMENTAL REQUIREMENTS & DIMENSIONS

Refer to lightcon.com

[1] *Configurations with either dual-output A or dual-output B are also available.*

[2] *Simultaneous mode: > 1 W @ 920 nm, > 1 W @ 1100 nm, and > 2.5 W @ 1025 nm.*

[3] *Power control using AOM is applicable, specifications below.*

[4] *Speficied at 920 nm, 1100 nm, and 1025 nm, respectively.*

[5] *IR pulse duration determined assuming $sech^2$ shape.*

[6] *Beam pointing deviation over the entire tuning and GDD control range.*

[7] *Expressed as normalized root mean squared deviation (NRMSD); with less than ±1 °C temperature change after 1 h warm up.*

[8] *Simultaneous mode: > 0.7 W @ 920 nm, > 0.7 W @ 1100 nm, and > 1.5 W @ 1025 nm.*

[9] *Specified from 5% to 95%.*

[10] *Multiple second harmonic configurations available. For more information contact sales@lightcon.com.*

DANGER: VISIBLE AND/OR INVISIBLE LASER RADIATION AVOID EYE OR SKIN EXPOSURE TO DIRECT, REFLECTED OR SCATTERED RADIATION

CLASS 4 LASER PRODUCT

Drawings

CRONUS-2P