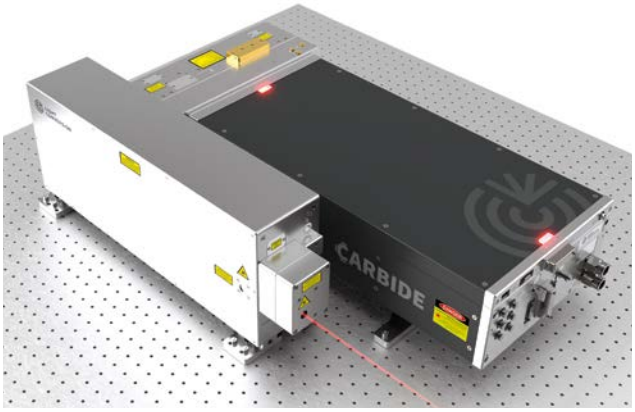
CRONUS | 3P

NEW

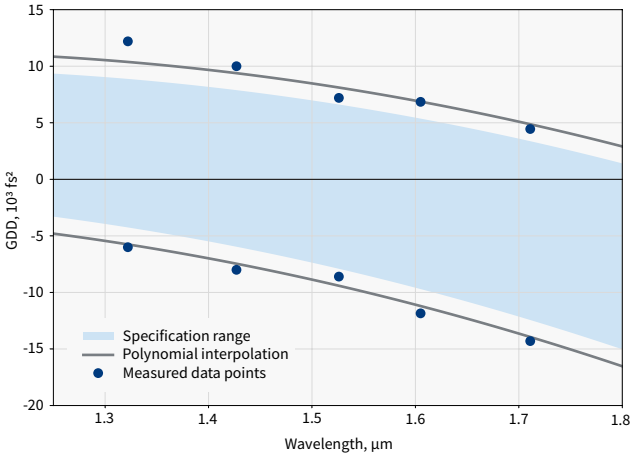
Laser Source for Advanced Nonlinear Microscopy

FEATURES

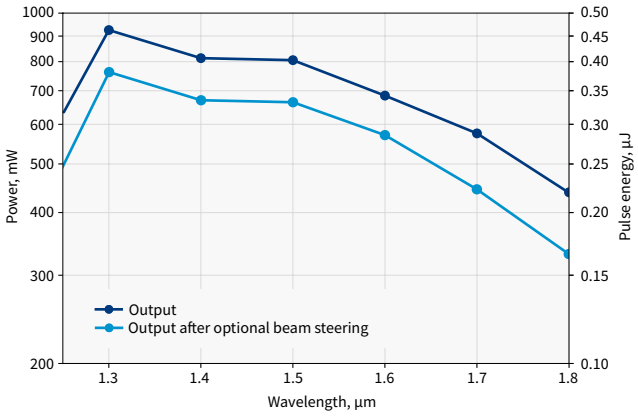
- High pulse energy, high repetition rate, and high average power
- 1250 – 1800 nm tuning range
- < 85 fs pulse duration
- Automated dispersion compensation
- Automated beam resizing and collimation
- High output stability
- Optional beam steering



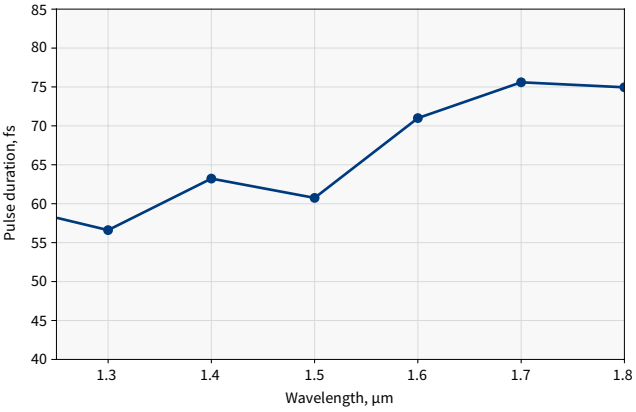
CRONUS-3P is an OPA-based laser source developed specifically for advanced nonlinear microscopy. It provides µJ-level sub-85 fs pulses at repetition rates of up to 2 MHz and tunable from 1.25 to 1.8 µm, thus covering the biological transparency windows at 1.3 µm and 1.7 µm for three-photon microscopy (3PEF). CRONUS-3P has integrated group delay dispersion (GDD) compensation, ensuring optimal pulse duration at the sample, and optional automated beam steering to guarantee laser pointing stability.



GDD tuning range



Output power and pulse energy vs wavelength.
Pump: 40 W, 2 MHz.



Typical pulse duration

SPECIFICATIONS

Model	CRONUS-3P	
Tuning range	1250 – 1800 nm	
Pulse duration	< 85 fs	
Repetition rate [1]	Single-shot to 2 MHz	
	1300 nm	**1700 nm**
Output power	> 1200 mW @ 1 MHz > 800 mW @ 2 MHz	> 750 mW @ 1 MHz > 500 mW @ 2 MHz
GDD compensation	-4000 – 9000 fs^2	-12000 – 3500 fs^2
Beam diameter [2]	1.5 – 2.5 mm	
Beam quality (M^2)	< 1.4	
Beam ellipticity	> 0.8	
Beam divergence	< 1 mrad	
Long-term power stability, 8h [3]	< 1%	

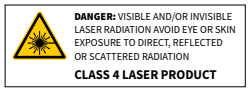
OUTPUT WITHOUT COMPRESSOR

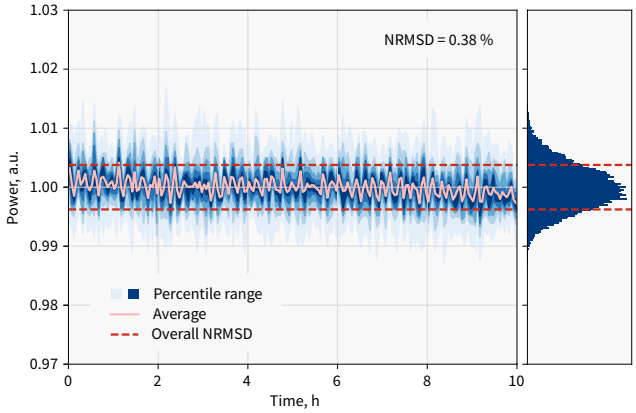
Output power	> 1500 mW @ 1 MHz > 1000 mW @ 2 MHz	> 1050 mW @ 1 MHz > 700 mW @ 2 MHz

OPTIONAL BEAM STEERING

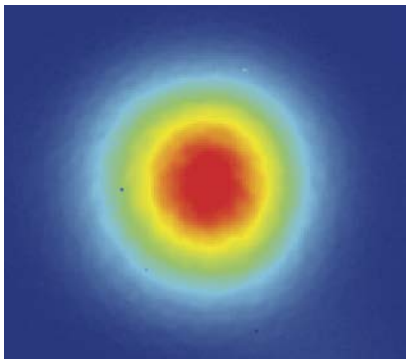
Transmission	≥ 75%

[1] *Lower repetition rate and higher pulse energy options available.*
[2] *FWHM, measured at compressor output.*
[3] *Expressed as NRMSD (normalized root mean squared deviation).*



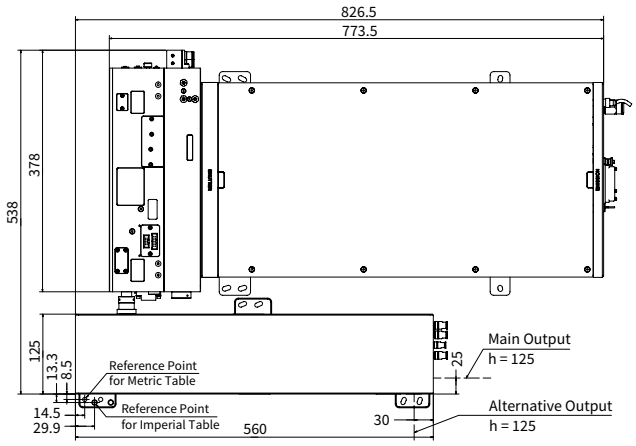


Long-term power stability, measured at 1700 nm over 10 h

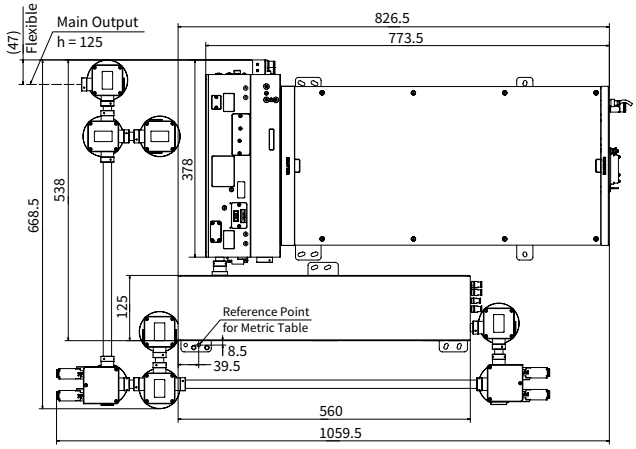


Beam profile at 1300 nm, 1.5 mm diameter (FWHM)

DRAWINGS



CRONUS-3P drawing



CRONUS-3P with optional beam steering drawing