

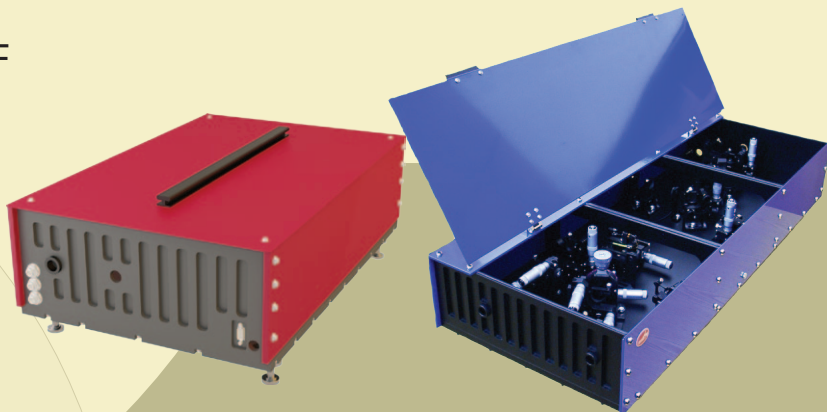


Femtosecond Solid-State Lasers



Cr:Forsterite Femtosecond Laser CrF

- Wavelength range: 1230-1270 nm
- Output power up to 800 mW
- Pulse energy >20 nJ at 30 MHz
- Integrated pump source option
- Short pulse duration down to <35 fs
- Electromagnetic starter or SESAM models



The CrF-450TP femtosecond laser and the LF-100 CW laser

Product overview

The CrF chromium-forsterite laser offers a unique active media that produces femtosecond pulses around 1250 nm. The laser features an integrated Peltier TC with control unit for cooling the crystal to lower temperatures for higher average power generation and precise temperature control. Three models of the laser feature SESAM self-starting with a fixed wavelength operation and one model with an electromagnetic starter offers wavelength tunability.

The CrF includes a built-in 15-W fiber pump laser and control unit. The 1250 nm region offers new horizons for microscopy or human tissue studies where fs pulses conquer new heights each year. CW version of the CrF is available separately as the LF-100 laser.

The CrF laser can also be used as a seed oscillator for building high-power Cr:F amplifiers also offered by our company.

Possible application of the Cr:F laser:

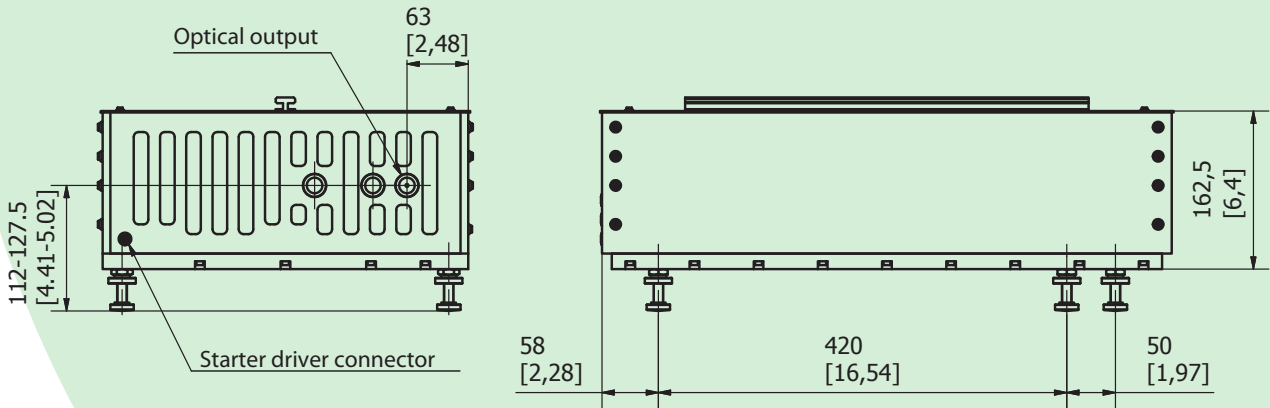
- Multi-photon excitation microscopy
- Seed oscillator for amplifiers
- Pump-probe spectroscopy
- Generation of terahertz radiation
- Time-resolved spectroscopy
- Optical coherent tomography

CrF technical specifications

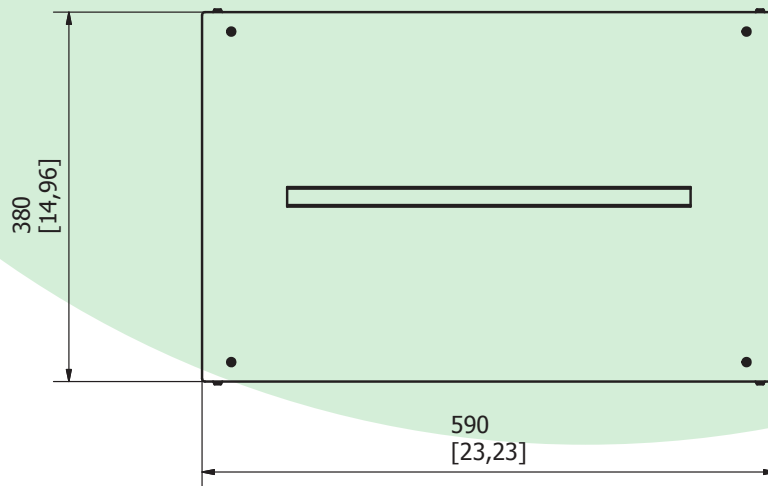
	CrF-450TP	CrF-400SP	CrF-700SP	CrF-700SP-L
Pulse width (FWHM)	<65* fs	<75 fs		<140 fs
Wavelength range	1230-1270 nm (tunable)	1230-1270 nm (fixed)		1265+/-15 nm (fixed)
Average output power (at peak wavelength)	>450** mW	>400 mW	>700 mW	>560 mW
Repetition rate (typical)	96 MHz	95 MHz		30+/-2 MHz (fixed)
Pulse energy	>4 nJ	>4 nJ	>7 nJ	>20 nJ
Built-in Yb fiber laser pump power	15 W			
Starting of femtosecond operation	electric starter	self-starting (SESAM)		
Output stability	<2% rms			<5% rms
Spatial mode	TEM ₀₀			
Polarization	linear, horizontal			
Divergence	<2 mrad			
Crystal cooling	thermoelectric + closed-loop water chiller			

* - down to 35 fs possible upon request;

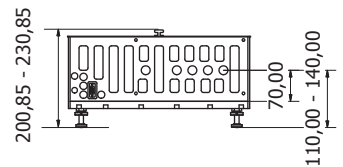
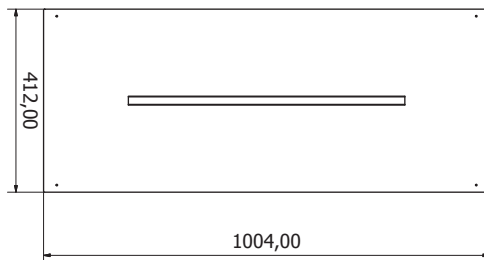
** - up to 800 mW is possible upon request.



CrF - mm [inches]



	LF-100
Tuning range, nm	1210-1290
Output power, mW*	400*
Spatial mode	TEM ₀₀
Bandwidth, 1/cm	10
* - 10 W pump	



LF-100 - mm