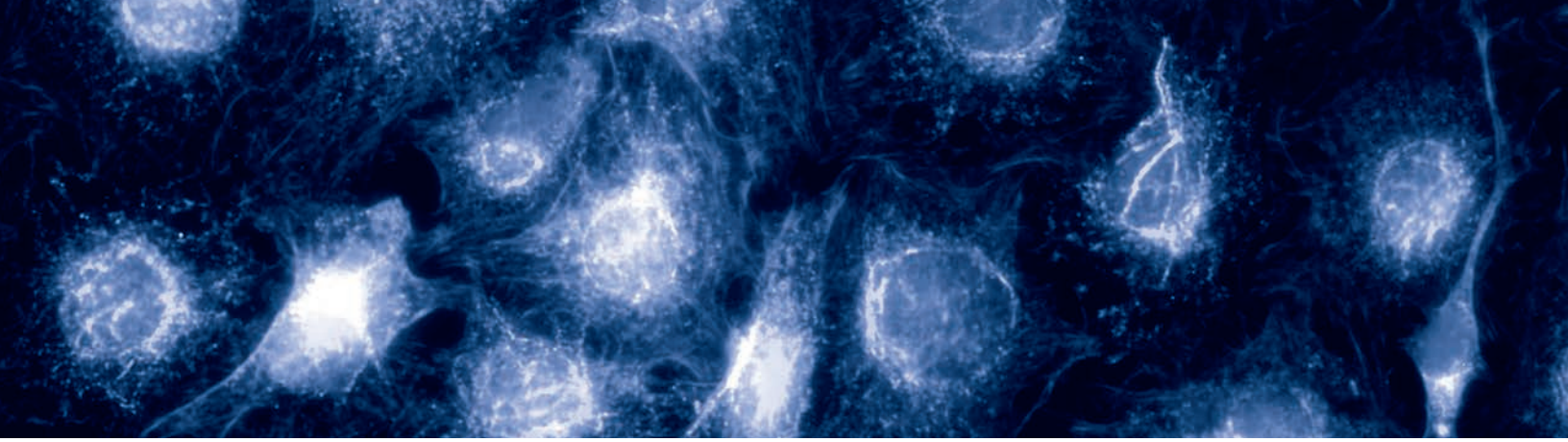


Opera-F

Optical Parametric Amplifier for Yb Systems

The Opera-F is an optical parametric amplifier (OPA) that extends the performance of Coherent's Monaco and Monaco HE amplifiers. Opera-F delivers a broad tuning range, 650 nm to 900 nm and 1200 nm to 2500 nm. Opera-F is a two stage OPA seeded by a white-light continuum and pumped by the second harmonic of the Monaco. Opera-F uses a non-collinear first stage to generate broad bandwidth and a collinear second stage to generate the large tunable range. The signal output of the Opera-F can be compressed to <75 fs using a prism-based compressor, and the idler pulses to <100 fs, using a bulk compressor.

Pumped by 60 W at up to 4 MHz and pulse energies up to 80 uJ from a Monaco amplifier, Opera-F can deliver >6 W signal + idler. Opera-F can also be configured for up to 2 mJ pump energies from Monaco HE. The high power, high repetition rate capabilities of the Opera-F pumped by a Monaco or Monaco HE is a superior tool delivering high energies or high repetition rates for demanding experiments.

FEATURES & BENEFITS

- Up to 60 W pump power and up to 2 mJ pulse energy
- Conversion efficiency >10% (signal + idler)
- Wavelength range 650 nm to 900 nm (signal), 1200 nm to 2500 nm (idler)
- Pulse widths <100 fs (with optional compressor)

APPLICATIONS

- Multiphoton Excitation (MPE) Microscopy
- Optogenetics (Photo Activation)
- Time-resolved Spectroscopy
- Multidimensional Spectroscopy
- Surface Spectroscopy

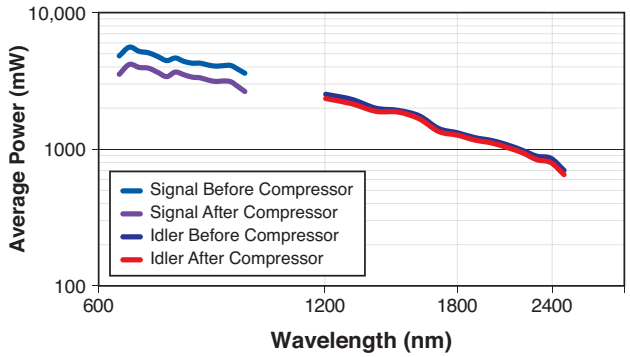
COHERENT®
Superior Reliability & Performance

SPECIFICATIONS[1,2]	Opera-F
Wavelength Range (nm) Signal Idler	 650 to 900 1200 to 2500
Conversion Effciency[3] (%)	>10
Pulse Bandwidth (cm^{-1}) 650 nm to 900 nm 1200 nm to 2000 nm	 200 to 600 150 to 500
Pulse Duration Before Compressor (fs)	<250
After Compression[4] (fs) 650 nm to 900 nm 1200 nm to 2000 nm	 50 ±25 70 ±30
Compresssor Transmission[4] (%) 700 nm to 900 nm 1200 nm to 2000 nm	 50 to 70 70 to 80
Pump Laser	Monaco

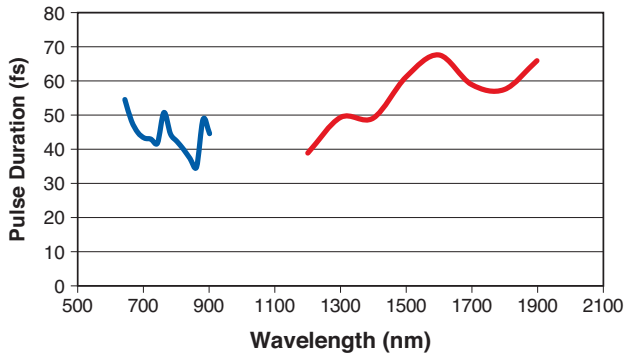
1 All specifications are based on pumping with >15 µJ from Monaco.
2 For other pump energies, contact factory.
3 Efficiency given at peak of tuning curve, second stage signal + idler, before optional compressor.
4 Optional compressor includes two prism compressor for signal, and bulk compressor for idler.

TYPICAL PERFORMANCE DATA

Opera-F Pumped by 60W, 2 MHz from Monaco



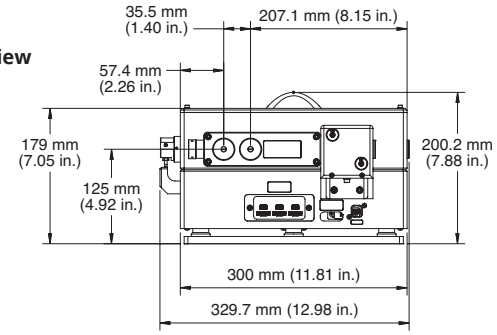
Opera-F Pulse Width, After Optional Compressor



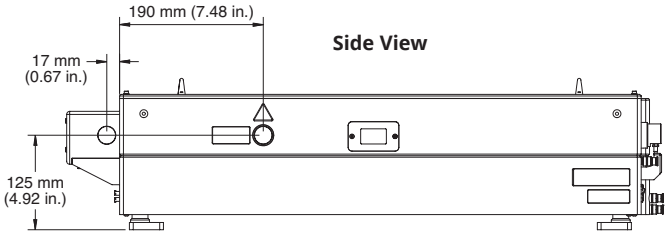
MECHANICAL SPECIFICATIONS

Opera-F

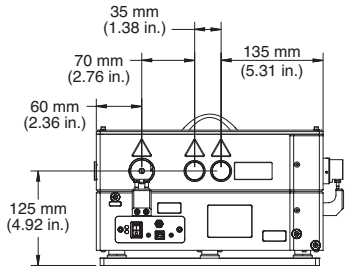
Front View



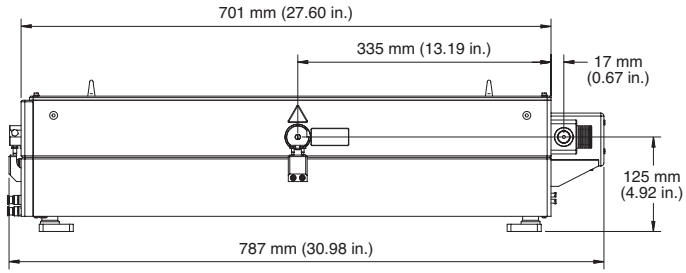
Side View



Rear View



Side View



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