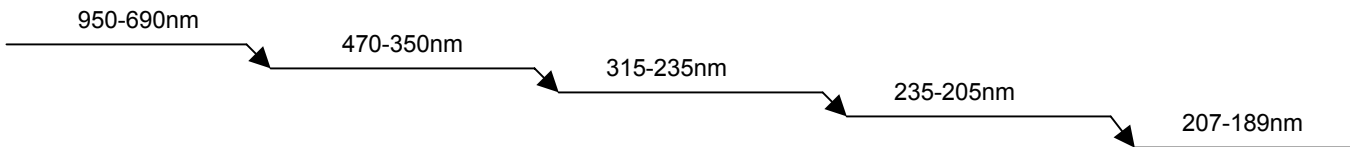


Widely Tunable Ti:Sapphire Laser

Model CF131A, CF131MA



- Widely tunable from UV to IR (950 – 189nm)
- All solid state
- Narrow and super narrow linewidth
- Pollution-free
- PC control (model CF131A)



The original optic schematic of the CF131 Series narrow-linewidth Ti:Sapphire laser provides a high-power TEM00 output (more than 100mJ at fundamental). The optimised frequency converters (SHG, THG, FHG) extend the laser tunability range to the UV down to 189nm.

Model CF131MA is a manually controlled system; Model CF131A is a fully automated PC controlled system.

Upon request, the CF131A can be completed with a small-size Model SL40-2 Spectrometer to allow control of the laser wavelength across a broad spectrum range from 189 – 950nm.

Specifications

OUTPUT PARAMETERS

Active Medium:	Ti:Sapphire
Tuning Range*	
at fundamental:	690 - 950nm
at second harmonic:	350 - 470nm
at third harmonic:	235 - 315nm
at fourth harmonic:	189 - 235nm
Pump conversion efficiency at peak of tuning curve:	
at fundamental:	≤25%
at second harmonic:	≤8%
at third harmonic:	≤2.5%
at fourth harmonic	
for spectrum range 205-235nm:	≤1.8%
for spectrum range 189-210nm:	≤0.6%
Linewidth**(for all harmonics):	0.03 – 0.04 (0.002) nm
Beam Divergence	< 1.5 mrad

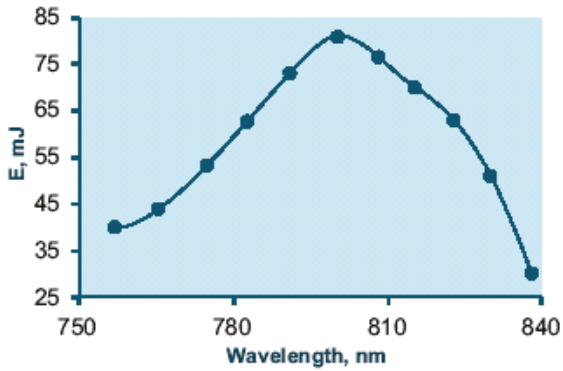
PUMP PARAMETERS

Wavelength:	532nm
Pulse Energy (max):	50 – 500mJ
Pulse Duration:	8-20ns
Pulse Repetition Rate (max):	50Hz
Beam Diameter (max):	9mm

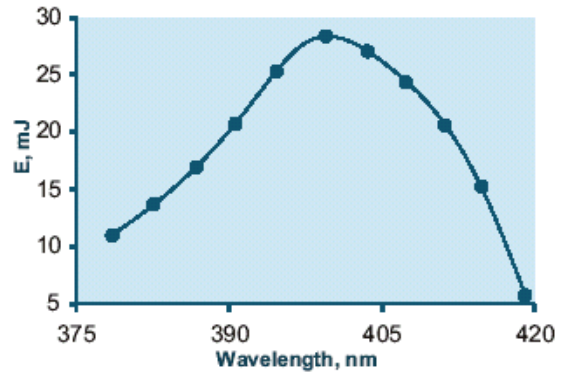
*Tuning in the 690-950 range is achieved by the use of three interchangeable holographic gratings

** Special option with intracavity Fabry-Perot etalon allows generation of super-narrow (less than 0.002nm) linewidth output

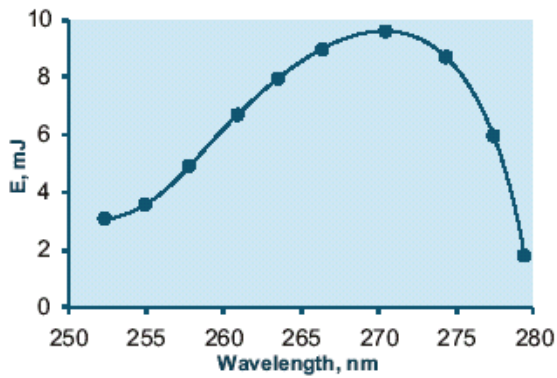
Laser Tunability (examples with medium wavelength holographic selector)



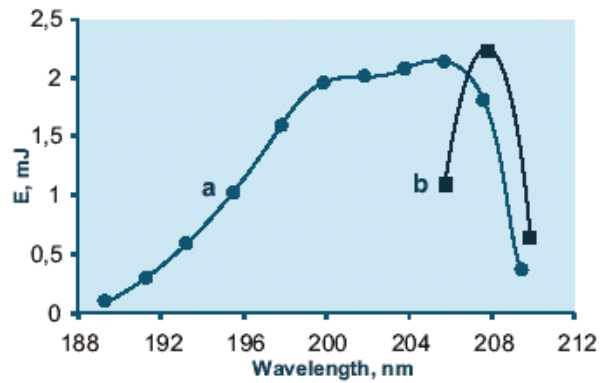
Medium Wavelength Selector • Fundamental



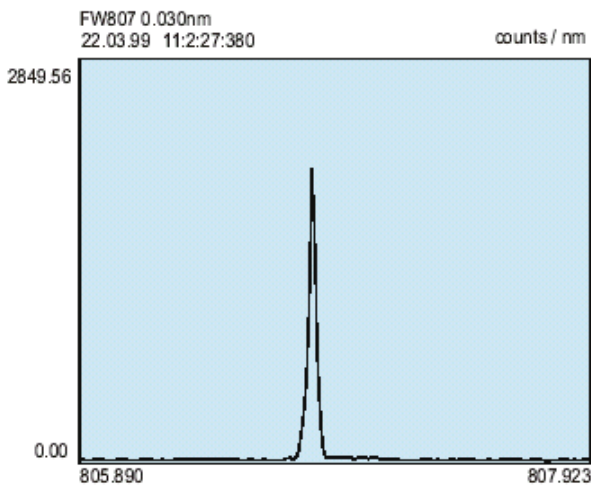
Medium Wavelength Selector • Second Harmonic



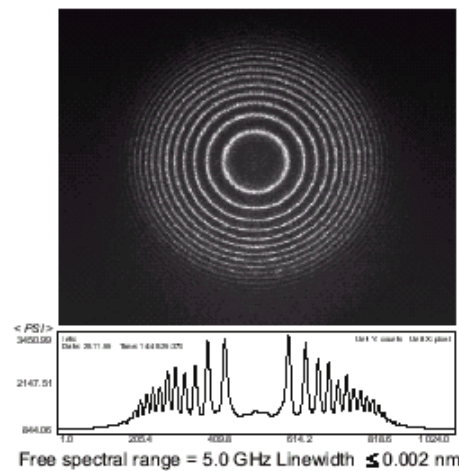
Medium Wavelength Selector • Third Harmonic



Medium Wavelength Selector • Forth Harmonic (a - UVI option; b - UVII option)

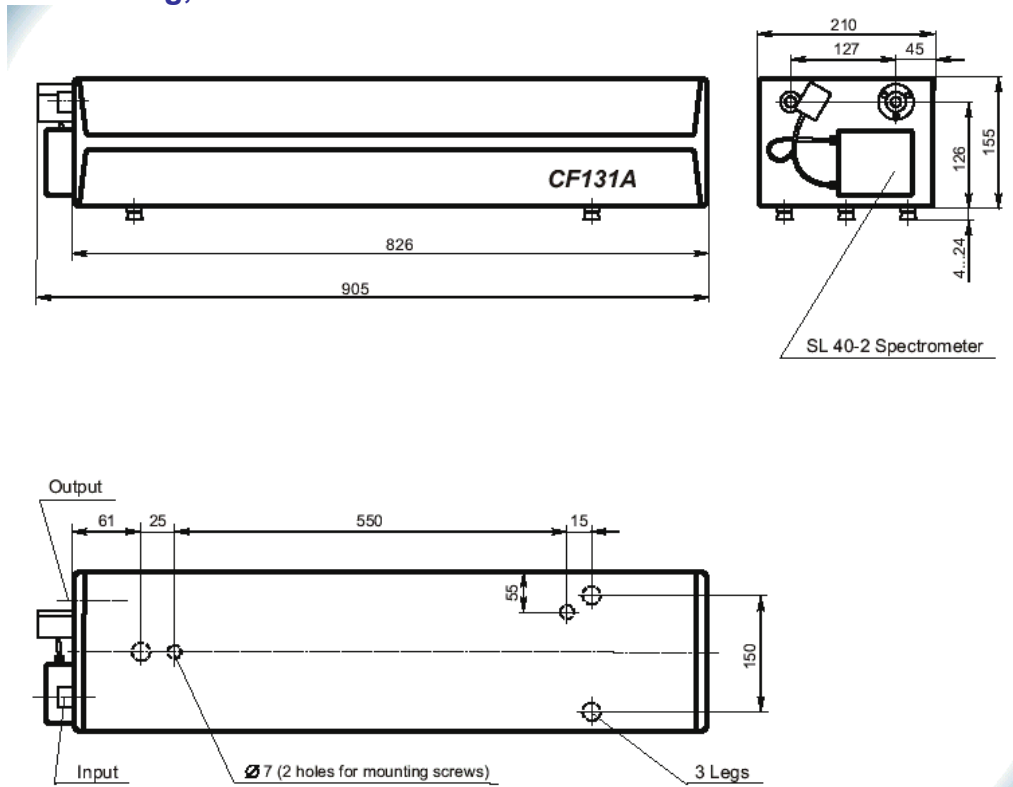


Lineshape for fundamental at maximum of tuning curve



Super-narrow linewidth output spectrum

Dimensional Drawing, Model CF131A



Dimensional Drawing, Model CF131MA

