

WIDELY-TUNABLE Ti:SAPPHIRE LASER

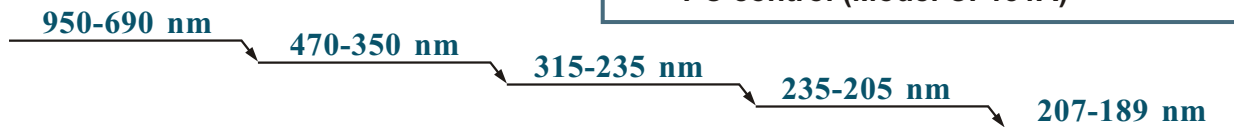
Widely-Tunable Ti:Sapphire Laser

MODELS

CF 131A
CF 131MA



- Widely-tunable from IR to UV (950-189 nm)
- 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 100 mJ at fundamental). The optimized frequency converters (SHG, THG, FHG) extend the laser tunability range to the UV down to 189 nm.

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

Upon request, the system 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 to 950 nm.

SPECIFICATIONS

OUTPUT PARAMETERS

Active medium:	Ti:Sapphire
Tunability range*	
at fundamental:	690-950 nm
at second harmonic:	350-470 nm
at third harmonic:	235-315 nm
at fourth harmonic:	189-235 nm
Pump conversion efficiency**	
at fundamental:	<= 25,0%
at second harmonic:	<= 8,0%
at third harmonic:	<= 2,5%
at fourth harmonic	
for spectrum range 205-235 nm:	<= 1,8%
for spectrum range 189-210 nm:	<= 0,6%
Linewidth*** (for all harmonics):	0,03-0,04 (0,002) nm
Beam divergence:	< 1,5 mrad

PUMP PARAMETERS

Wavelength:	532 nm
Pulse energy:	50-500 mJ
Pulse duration:	8-20 ns
Pulse repetition rate (max):	50 Hz
Beam diameter (max):	9 mm

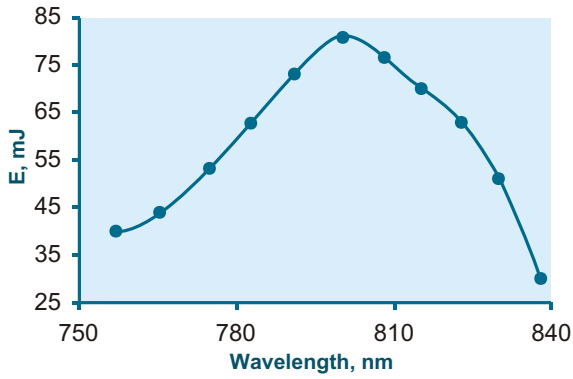
* Tuning in the 690-950 range is ensured by the use of three interchangeable holographic selectors.

** In the maximum of tuning curve.

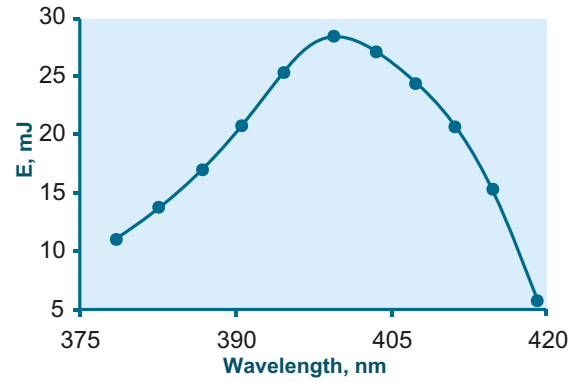
*** Special option with intracavity Fabry-Perot etalon allows generation of super-narrow (less than 0,002 nm) linewidth output.

Widely-Tunable Ti:Sapphire Laser, Models CF131A, CF131MA

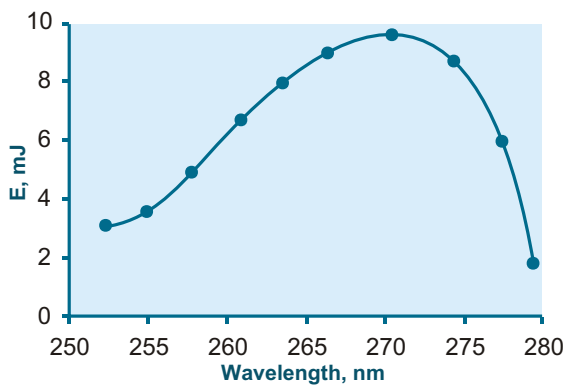
Laser Tunability (pump energy 300 mJ at 532 nm)



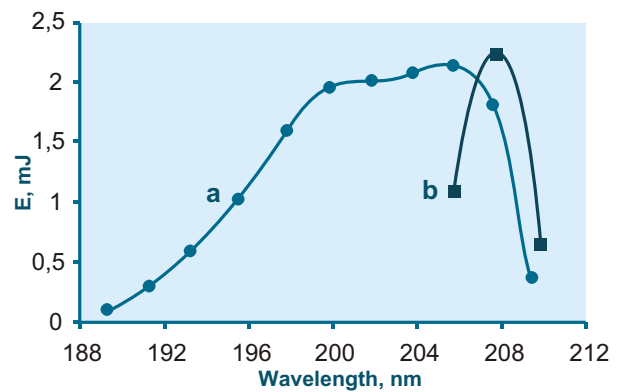
Medium Wavelength Selector • Fundamental



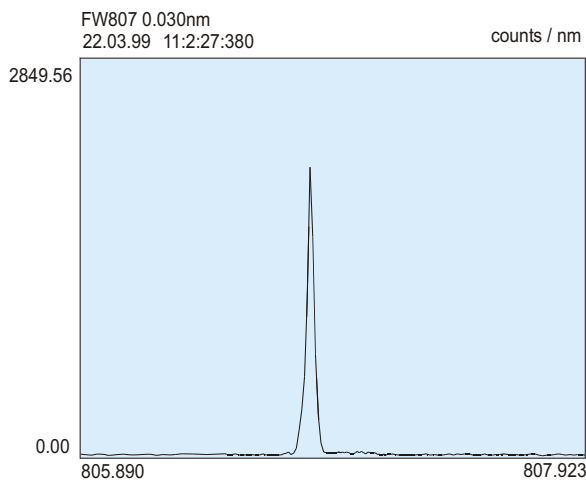
Medium Wavelength Selector • Second Harmonic



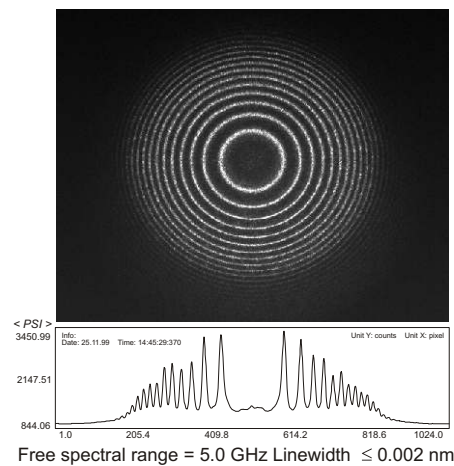
Medium Wavelength Selector • Third Harmonic



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

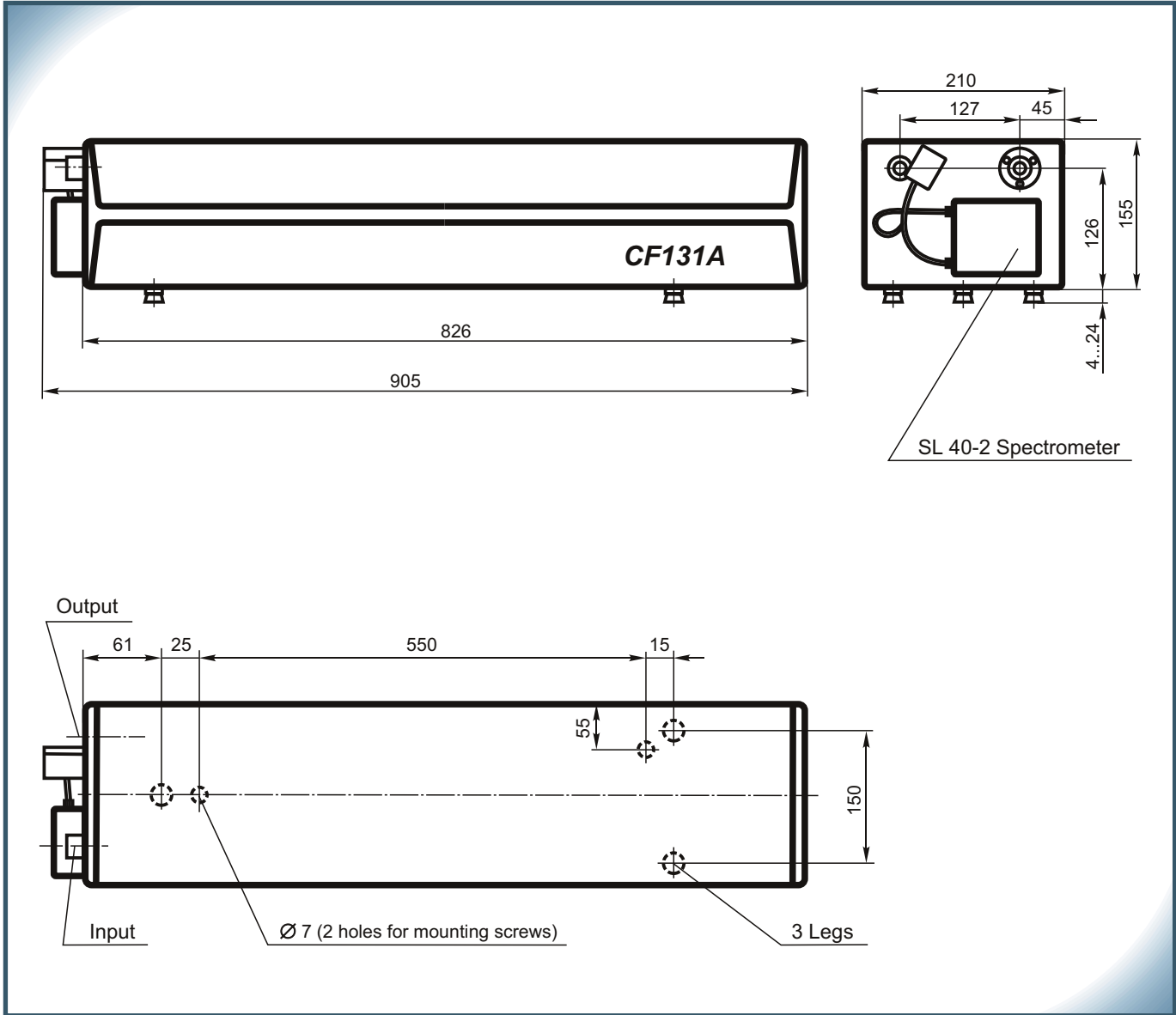


Lineshape for fundamental at maximum of tuning curve



Super-narrow linewidth output spectrum

DIMENSIONAL DRAWING, Model CF131A



DIMENSIONAL DRAWING, Model CF131MA

