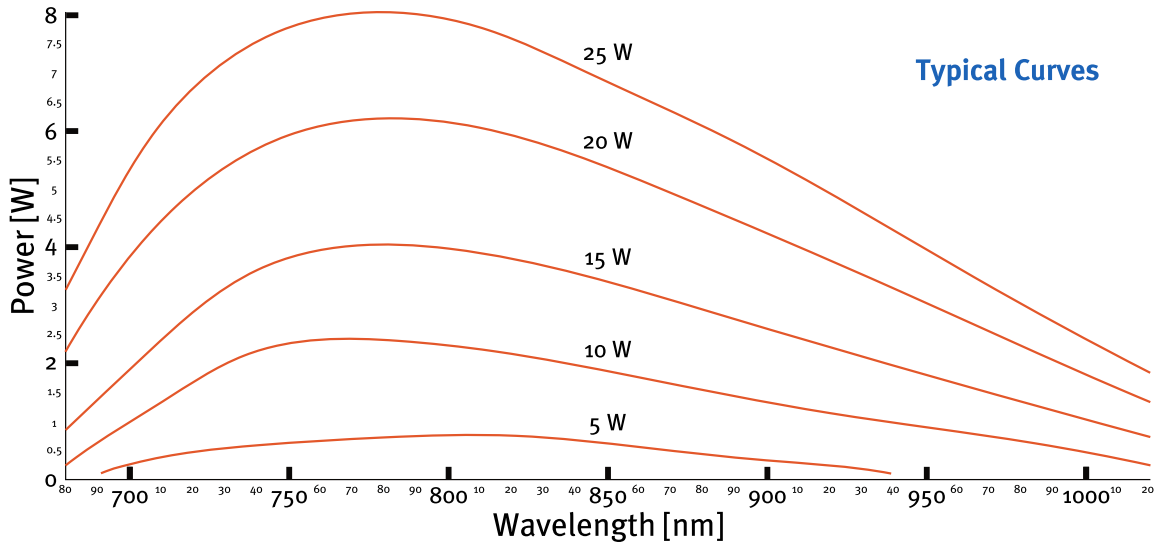
11/2020

Matisse CS

Actively Stabilized Titanium:Sapphire Ring Laser

- Sealed, fully automated design with purge ports for trouble free operation across atmospheric absorptions
- Hands free operation with ELSA (Electronic Laser Self Alignment)
- Wide tuning range (300 nm) with broadband option
- Compact design with pump laser included: only 720 mm length on laser table
- Extended scans over nanometers (requires wave-meter, optional fiber launch integrated in Matisse)
- Long term stable special developed mounts (no tweaking)
- Field serviceable: optics change, maintenance, upgrades
- Special optics for enlarged tuning range (662-1050 nm)
- High power output up to 8.4 W
- Intracavity EOM available
- Extension modules available from 210-4200 nm
- Narrow linewidth: High spectral resolution

Tuning Range



Specified Power	Millennia eV 25W	Millennia eV 20W	Millennia eV 15W	Millennia eV 10W	Millennia eV 5W
Broadband 700-1000 nm [1) 2)]	6.5 W	5.0 W	3.5 W	1.8 W	0.7 W
Three Optic Sets [1) 2)]	7.2 W	5.5 W	3.8 W	2.0 W	0.8 W

General Characteristics

Beam Radius [3)]	0.4-0.5 mm (typical)
Beam Divergence	< 1.2 mrad (half angle)
Linewidth [4)]	< 50 kHz rms / 100 msec, < 35 kHz rms / 100 µsec
Amplitude Noise	< 0.1 % rms (above pump noise, added in quadrature)
Scan Range [1)]	> 50 GHz
Beam Polarization	horizontal

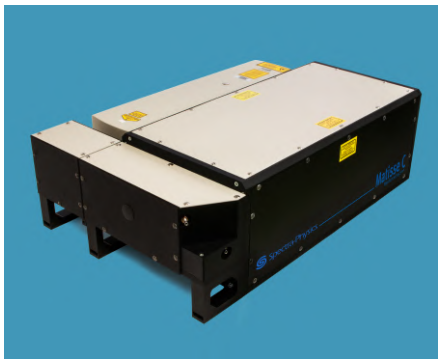
Requirements

Pump Laser [5)]	Millennia Series
Ambient Conditions	constant temperature in the 20-30 °C range, 80% max. rel. humidity, non condensing
Cooling	required for crystal (< 20 Watt)
Laboratory	vibrational isolated optical table, dust-free air (flow box)
Computer Control	Windows XP / Vista / 7 / 8 / 10, USB-Port

1) at approximately 780 nm
2) non-standard tuning ranges upon request
3) at Matisse output port
4) relative to built-in reference cavity
5) please contact Sirah for compatibility with other pump lasers

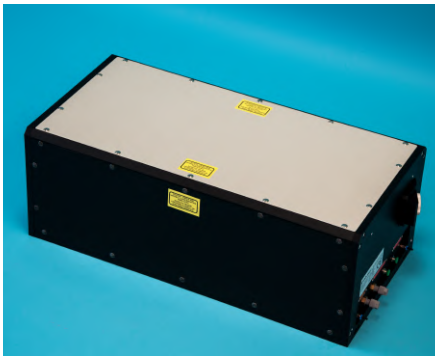
Matisse CS

Matisse CS Setup

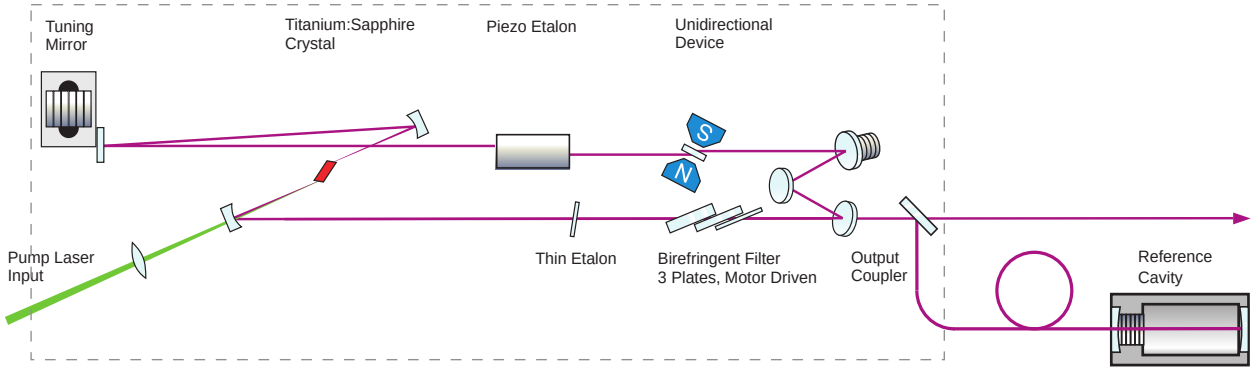


ELSA

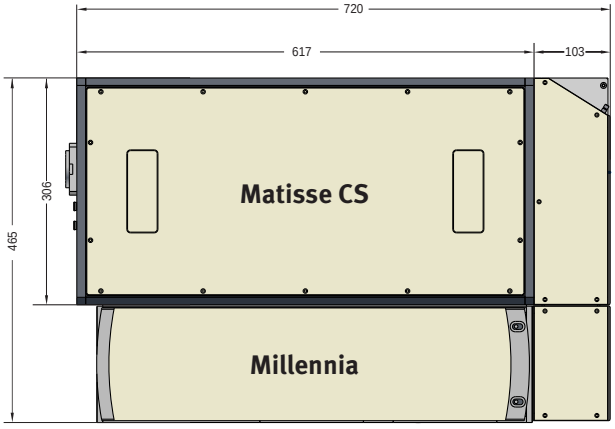
Matisse CS



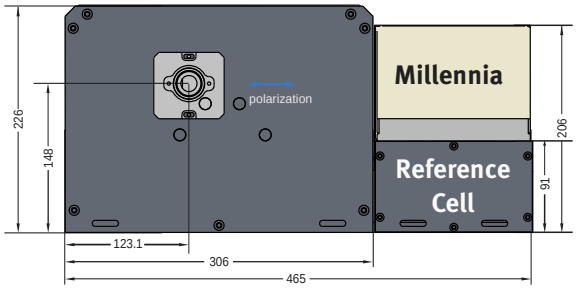
Optical Layout



Dimensions



Matisse CS (Top view)
(with Millennia eV 25 W pump laser)



Matisse CS (Side view)

All Dimensions in mm
Specifications are subject to change without notice
U.S. Patent 7,489,715

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