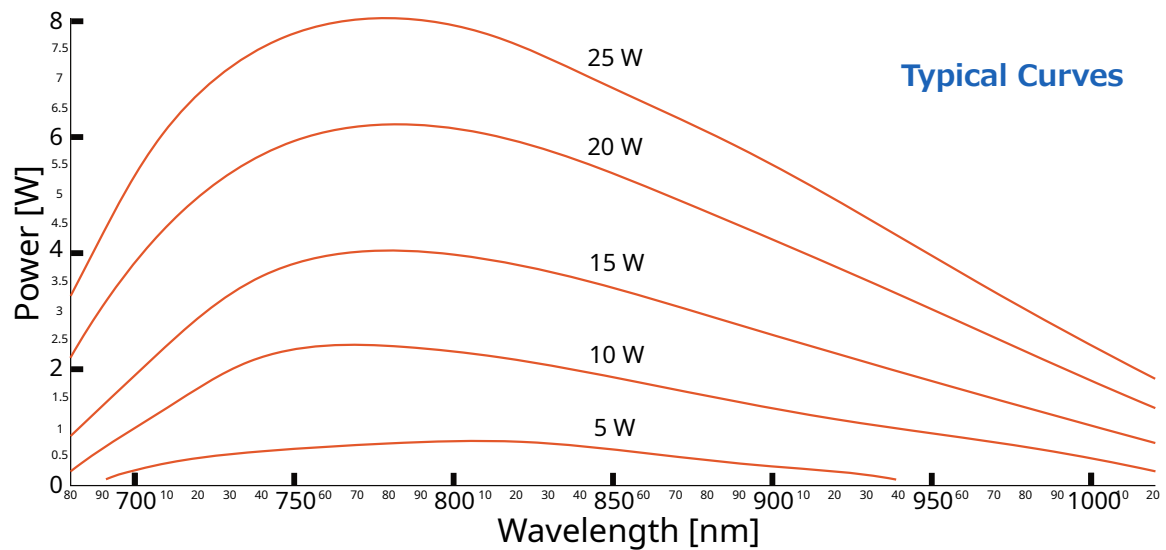


Matisse CS

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)
- Extension modules available from 210-4200 nm
- High power output up to 8.4 W
- Intracavity EOM available
- 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 (ca. 30 Watt)
Laboratory	vibrational isolated optical table, dust-free air (flow box)
Computer Control	Windows 7 / 8 / 10 / 11, 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



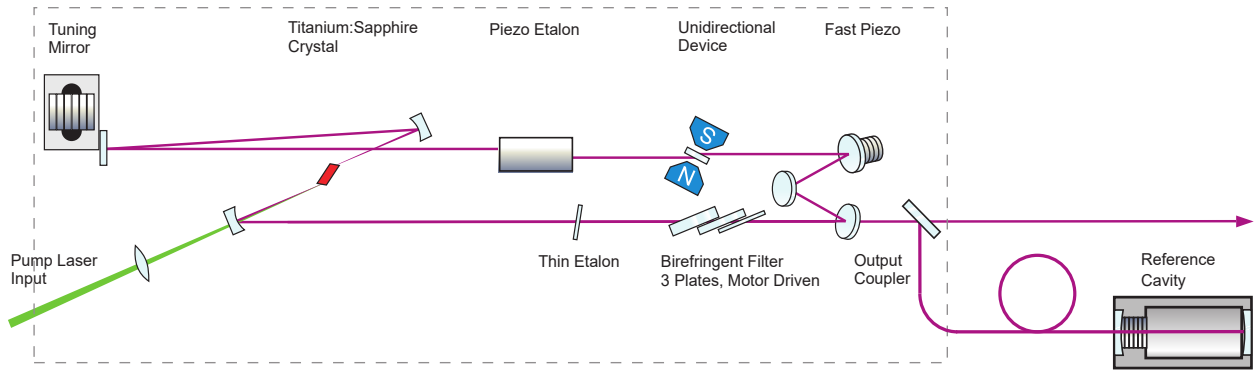
ELSA



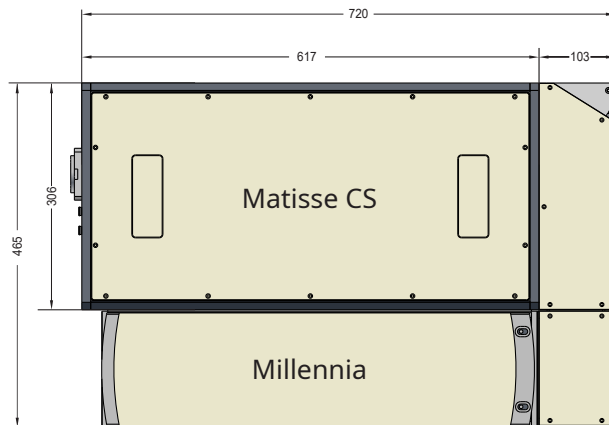
Matisse CS



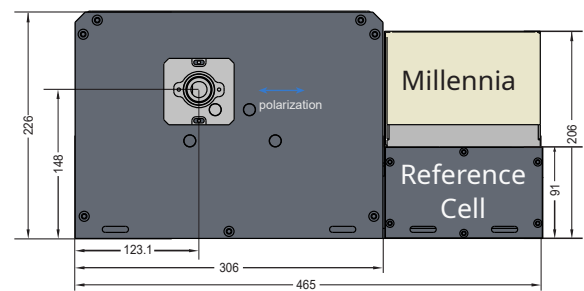
Optical Layout



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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