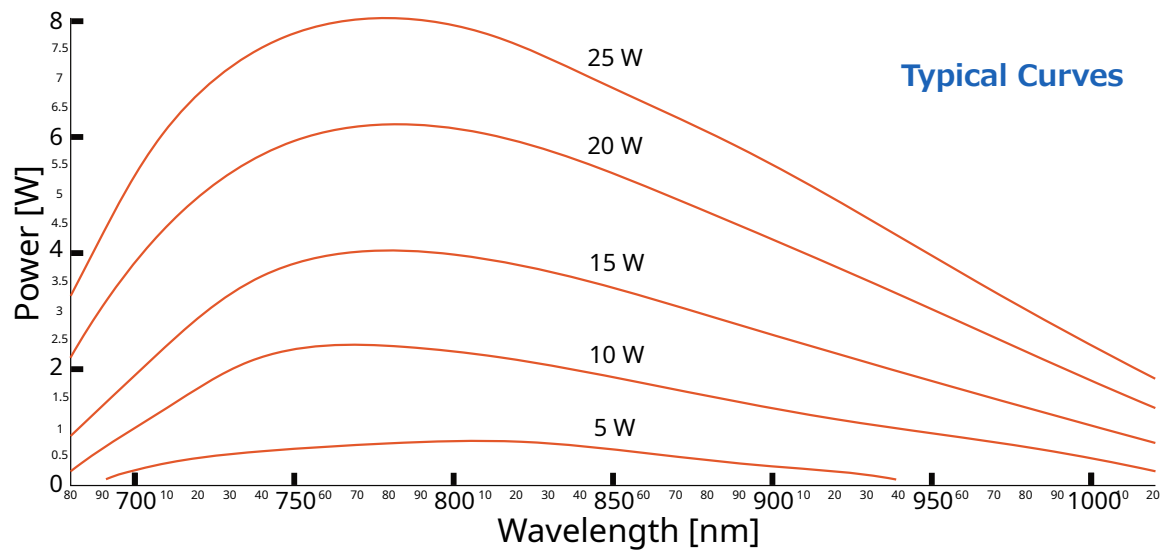


# Matisse CR

## Passively 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 (662-1050nm)
- Extension modules available from 210-4200 nm
- High power output up to 8.4 W
- Intracavity EOM available

## Tuning Range



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

## General Characteristics

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

## Requirements

Pump Laser <sup>4)</sup>	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

<sup>1)</sup> at approximately 780 nm

<sup>2)</sup> non-standard tuning ranges upon request

<sup>3)</sup> at Matisse output port

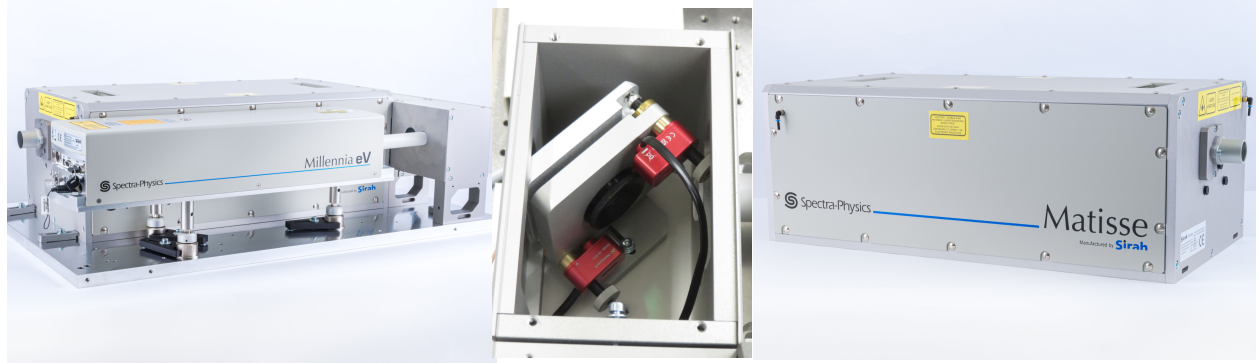
<sup>4)</sup> please contact Sirah for compatibility with other pump lasers

# Matisse CR

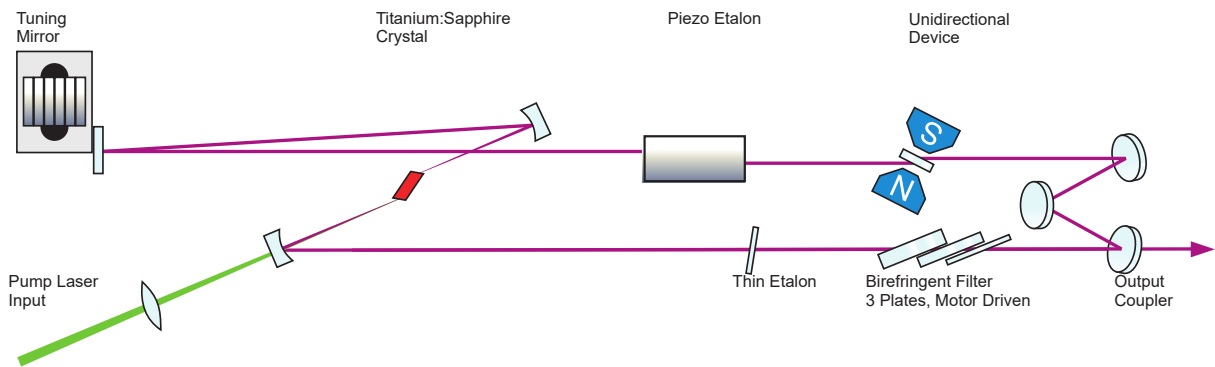
## Matisse CR Setup

## ELSA

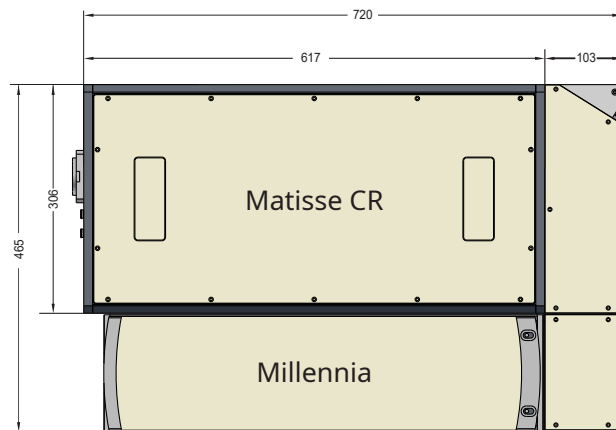
## Matisse CR



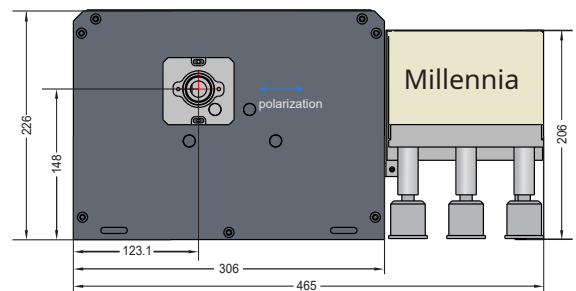
## Optical Layout



## Dimensions



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



Matisse CR (Side view)

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



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