

Matisse TS

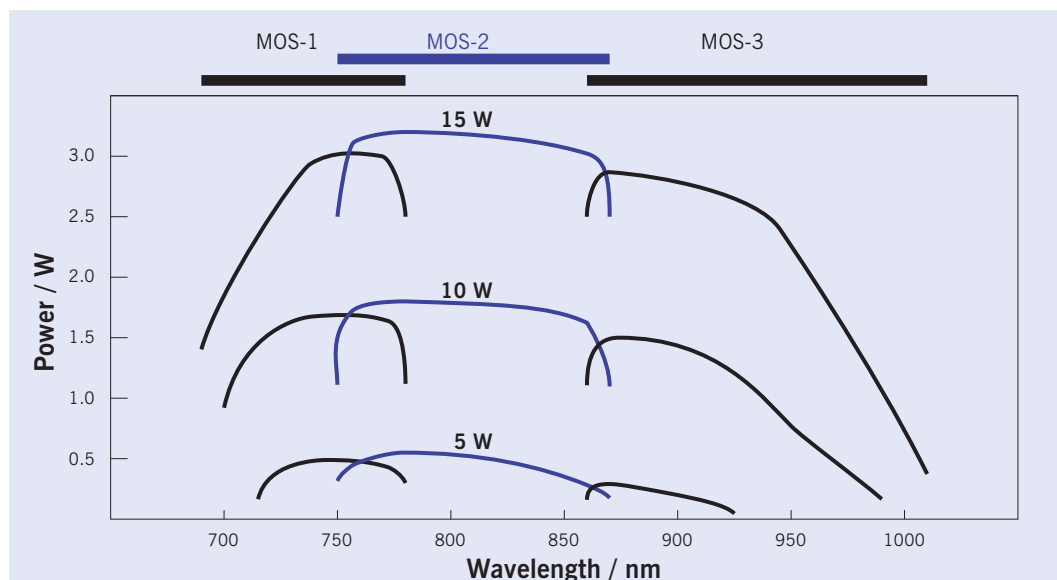
Actively Stabilized Titanium:Sapphire Ring Laser

The Matisse-TS is based on the Matisse-TR Titanium:Sapphire ring laser. Additional cavity length stabilization by an external reference cavity and a fast

piezo driven mirror narrows the linewidth down to 75 kHz. The unique long travel piezo mechanics allows single frequency scanning over 50 GHz without mode

hopping. The Matisse-TS can be upgraded into the higher resolution -TX or -TX-light version, or converted into the Matisse-DS cw ring dye laser.

Tuning Range



Optics Set	Millennia Pro 15s	Millennia Pro 10s	Millennia Pro 5s
MOS-1	690 .. 780 nm	700 .. 780 nm	715 .. 780 nm
MOS-2	750 .. 870 nm	750 .. 870 nm	750 .. 870 nm
MOS-3	860 .. 1015 nm	860 .. 990 nm	860 .. 925 nm

Maximum Power	3200 mW	1800 mW	800 mW
at approximately 780 nm			

General Characteristics

Spatial Mode	TEM ₀₀
Beam Diameter ¹⁾	1.2 .. 1.4 mm (typical)
Beam Divergence	< 2 mrad
Linewidth ²⁾	< 75 kHz rms / 100 msec
Amplitude Noise	< 0.75 % rms
Beam Polarization	horizontal

¹⁾ at Matisse output port

²⁾ relative to built in reference cavity

Requirements

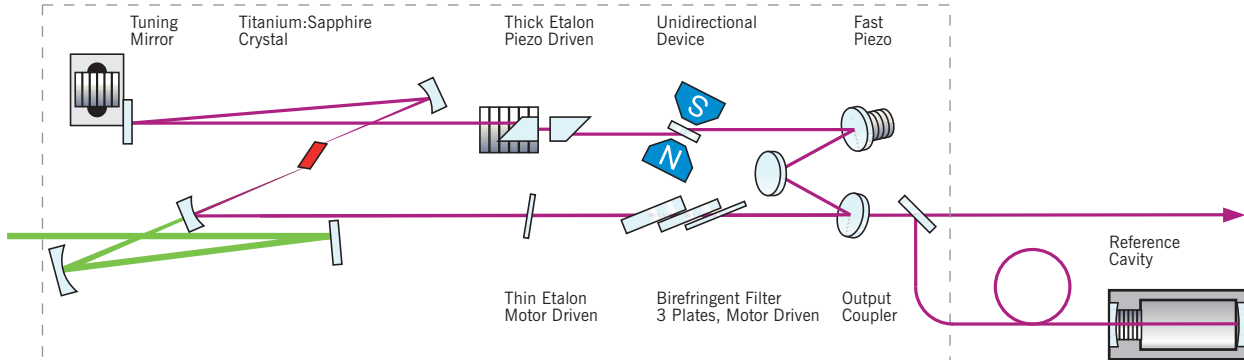
Pump Laser ³⁾	Millennia Pro Series
Ambient Conditions	constant temperature in the 20 .. 25°C range,
Cooling	required for crystal (<20 Watt)
Laboratory	vibrational isolated optical table,
	dust-free air (flow box)
Computer Control	Windows 2000 / XP / Vista (32 bit) system

³⁾ please contact Sirah for compatibility with other pump lasers

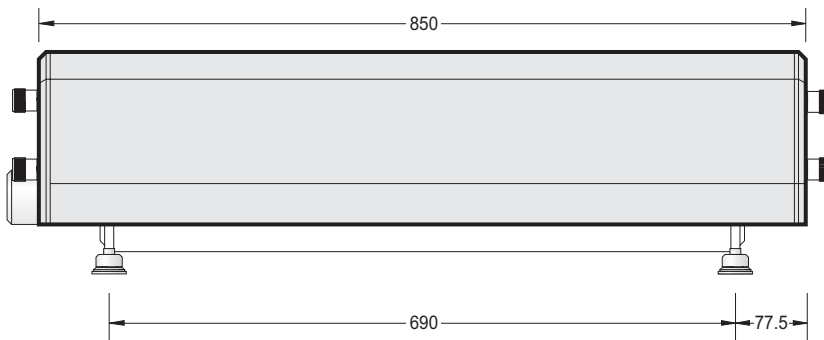
Sirah

Matisse TS

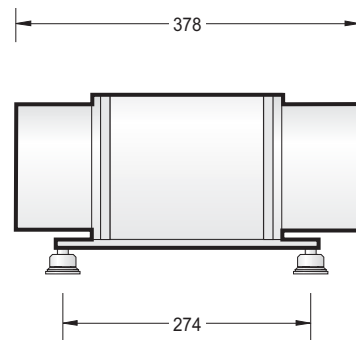
Optical Layout



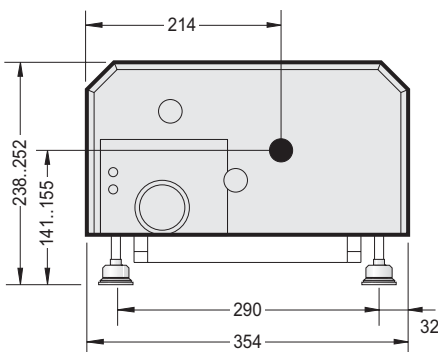
Dimensions



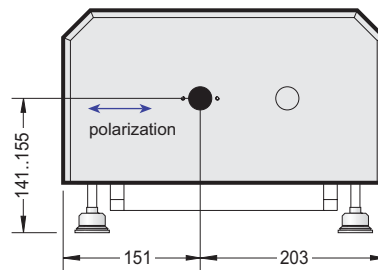
Matisse TS (side view)



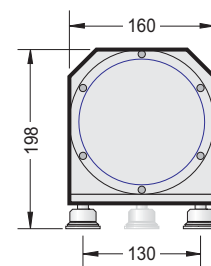
Reference Cell (side view)



Matisse TS (pump laser input end)



Matisse TS (Ti:Sa output end)



Reference Cell

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



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