

Matisse DS

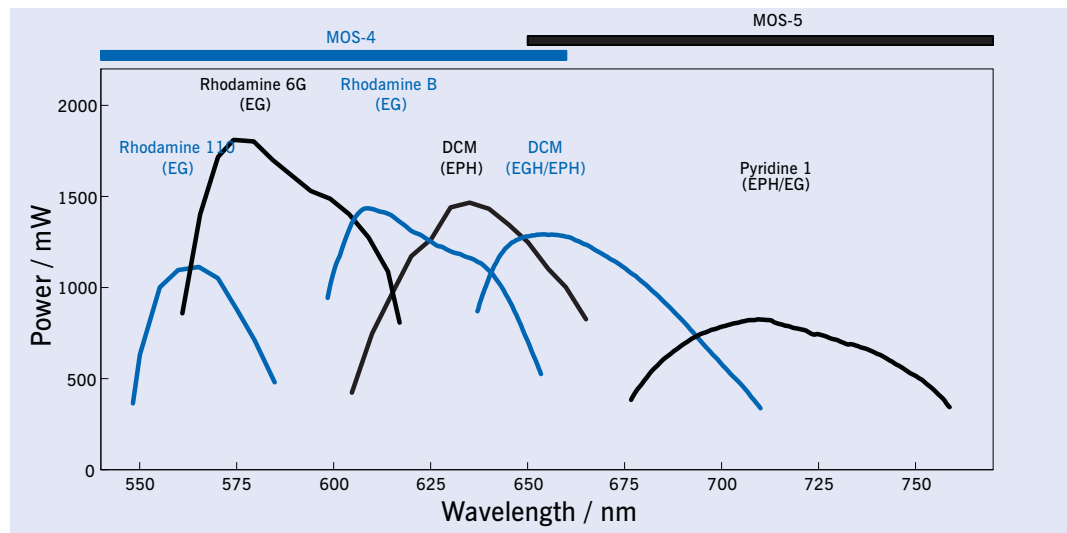
Actively Stabilized Dye Ring Laser

The Matisse-DS is based on the Matisse-DR dye ring laser. Additional cavity length stabilization by an external reference cavity and a fast piezo driven

mirror narrows the linewidth down to 250 kHz. The unique long travel piezo mechanics allows single frequency scanning over 60 GHz without mode

hopping. The Matisse-DS can be upgraded into the higher resolution -DX version, or converted into the Matisse-TS ring Titanium:Sapphire laser.

Tuning Ranges



Tuning curves for a Matisse pumped by Millennia Pro 10s

Optics Set	Millennia Pro 15s	Millennia Pro 10s	Millennia Pro 5s
MOS-4	550 .. 660 nm	550 .. 660 nm	550 .. 660 nm
MOS-5	650 .. 780 nm	650 .. 780 nm	650 .. 780 nm
Maximum Power	3000 mW	1800 mW	800 mW
at maximum of Rhodamine 6G			

General Characteristics

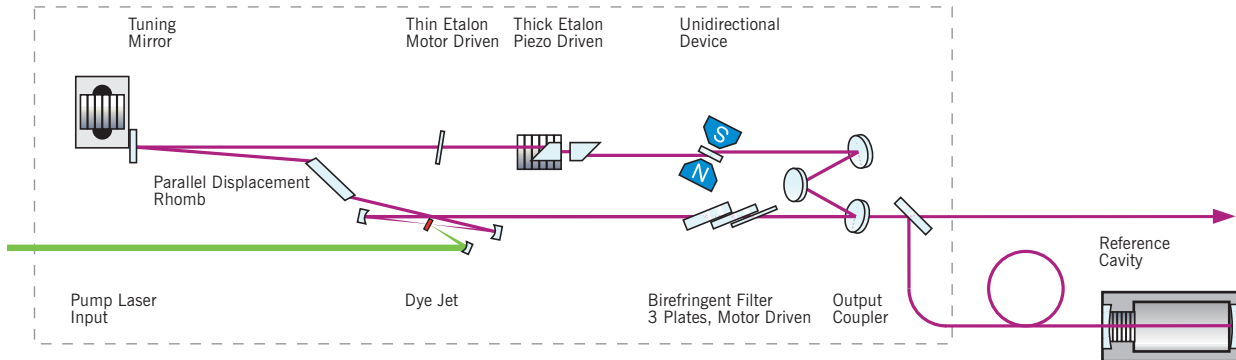
Spatial Mode	TEM ₀₀
Beam Diameter ¹⁾	1.2 .. 1.4 mm (typical)
Beam Divergence	< 2 mrad
Linewidth ²⁾	< 250 kHz rms / 100 msec
Amplitude Noise	2 % rms
Beam Polarization	horizontal
¹⁾ at Matisse output port	
²⁾ relative to built in reference cavity	

Requirements

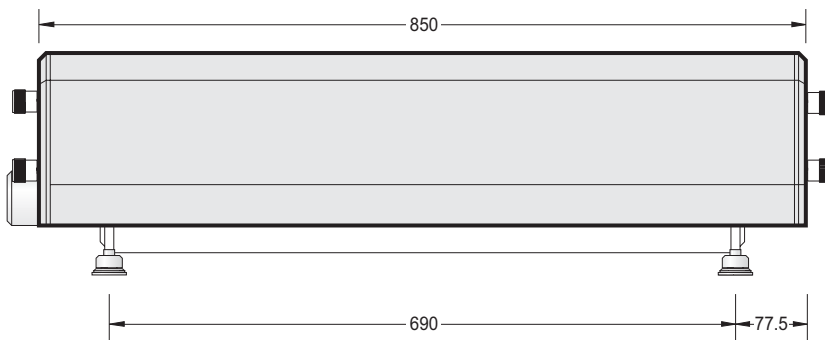
Pump Laser ³⁾	Millennia Pro Series
Ambient Conditions	constant temperature in the 20 .. 25°C range,
Cooling	required for circulator (~300 Watt)
Laboratory	vibrational isolated optical table, dust-free air (flow box)
Computer Control	Windows 2000 / XP / Vista (32 bit) system
³⁾ please contact Sirah for compatibility with other pump lasers	

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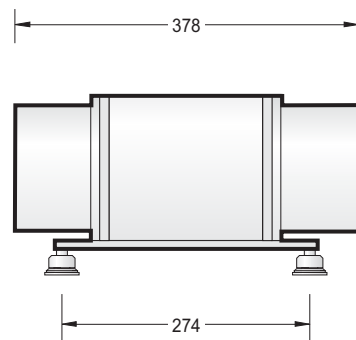
Optical Layout



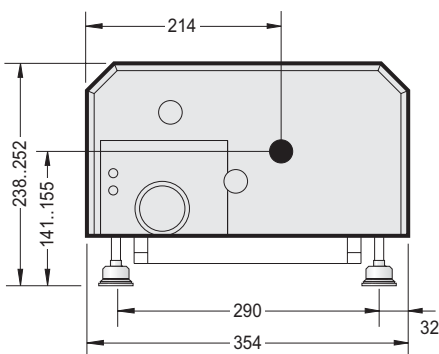
Dimensions



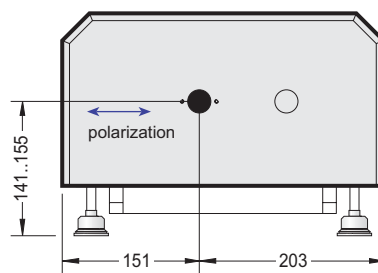
Matisse DS (side view)



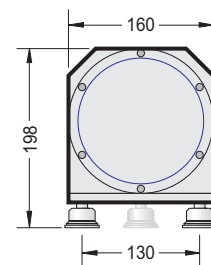
Reference Cell (side view)



Matisse DS (pump laser input end)



Matisse DS (dye 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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