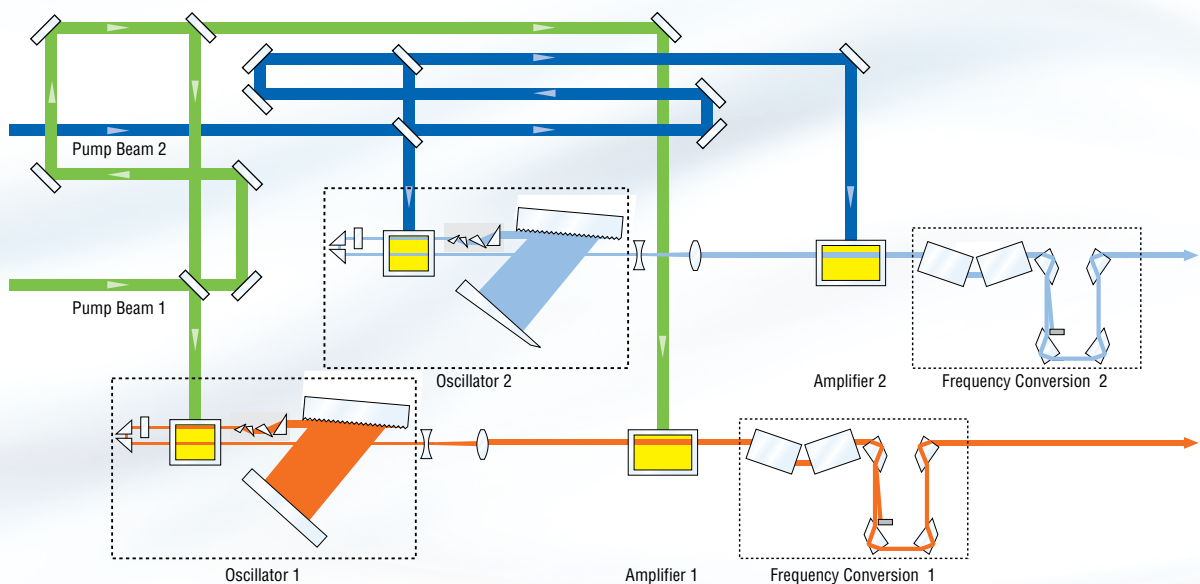


# Double Dye Laser

## PRINCIPLES

The Double Dye laser combines two completely independent PrecisionScan lasers into a single housing. Each of the lasers can be pumped by different pump laser pulses and set to operate at different wavelengths. Like the PrecisionScan, the Double Dye laser is available with single or double gratings as well as an optional grating lift. A frequency conversion stage for each laser can be integrated into the system.

However, the dimensions of the system fit to common door openings. Both lasers of the Double Dye system can be accessed and operated from one side.



## LINEWIDTH SPECIFICATIONS

Dispersion Option	Tuning Range	Linewidth		Efficiency
1800 lines/mm, 60 mm	400 nm–920 nm	3.6 pm	0.1 cm <sup>-1</sup> @ 625 nm	30% <sup>1</sup>
1800 lines/mm, 90 mm	400 nm–920 nm	2.4 pm	0.06 cm <sup>-1</sup> @ 625 nm	30% <sup>1</sup>
2400 lines/mm, 60 mm	370 nm–760 nm	2.7 pm	0.08 cm <sup>-1</sup> @ 570 nm	30% <sup>2</sup>
2400 lines/mm, 90 mm	370 nm–760 nm	1.8 pm	0.06 cm <sup>-1</sup> @ 570 nm	30% <sup>2</sup>
3000 lines/mm, 60 mm	370 nm–620 nm	2.0 pm	0.06 cm <sup>-1</sup> @ 570 nm	30% <sup>2</sup>
3000 lines/mm, 90 mm	370 nm–620 nm	1.4 pm	0.05 cm <sup>-1</sup> @ 570 nm	30% <sup>2</sup>
Dual 1800 lines/mm	410 nm–900 nm	1.7 pm <sup>3</sup>	0.05 cm <sup>-1</sup> @ 625 nm	27% <sup>1</sup>
Dual 2400 lines/mm	370 nm–710 nm	1.2 pm <sup>3</sup>	0.04 cm <sup>-1</sup> @ 570 nm	27% <sup>2</sup>
Dual 3000 lines/mm	370 nm–580 nm	1.0 pm <sup>3</sup>	0.03 cm <sup>-1</sup> @ 570 nm	27% <sup>2</sup>

1. at 625 nm (peak DCM) pumped at 532 nm
2. at 570 nm (peak Rhodamine 6G) pumped at 532 nm
3. exact linewidth depends weakly on wavelength; value given for 450 nm

# Double Dye Laser

## WAVELENGTH AND BEAM CHARACTERISTICS

Absolute Wavelength Accuracy	<20 pm (prism model: 0.5 nm)
Wavelength Resetability	<4 pm (prism model: 0.05 nm)
Wavelength Stability	<2 pm/°C (prism model: 10 pm/°C)
Divergence (typical)	0.5 mrad
Polarization	>98 % (vertical)
ASE	<0.5 %
Pump Energies (grating models)	50–650 mJ @ 532 nm (800 mJ <sup>1</sup> ) 50–400 mJ @ 355 nm (500 mJ <sup>1</sup> )

1. at 625 nm (peak DCM) pumped at 532 nm

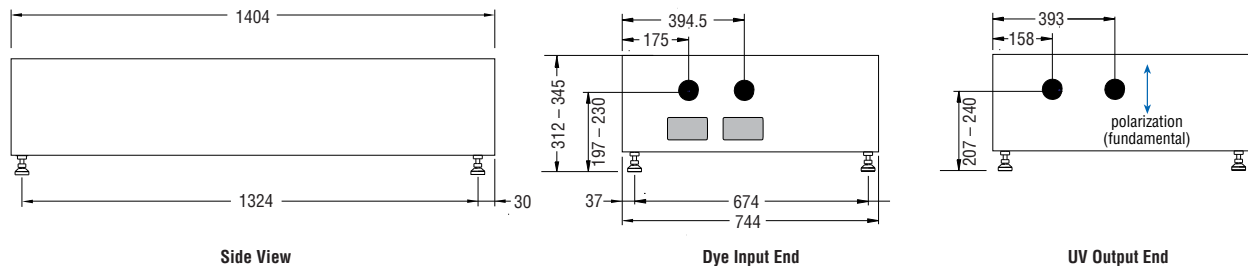
## REQUIREMENTS

Voltage	110–230 V, single phase, 50 Hz / 60 Hz
Computer Control	XP / Vista / Windows 7 / Windows 8, 2x USB port

## OPTIONS

Automatic exchange of gratings
Internal autotracking frequency doubling
Internal open loop frequency doubling / mixing units (with 2nd main amplifier: external housing)
Piezo wavelength control
Dynamic mode option
Double bandwidth option

## DOUBLE DYE DIMENSIONS



Dimensions in mm  
Specifications are subject to change without notice

**Sirah** Manufactured by Sirah

**Spectra-Physics**  
A Newport Company

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