

Credo Dye Laser

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The Credo Dye laser is a unique narrow bandwidth tunable laser designed for high repetition rate excitation. It features an ultra-low-threshold oscillator for high conversion efficiency at low pulse energies.

Special dye cells combine rapid flow of the dye solution with high pump power capabilities. Repetition rates up to 250 kHz are possible. Average pump powers up to 200 W can be used.

Linewidth Specifications

Dispersion Option	Tuning Range	Linewidth
Three Quartz Prisms	380 nm .. 920 nm	5 cm ⁻¹ @ 570 nm
1800 lines / mm, 90 mm	430 nm .. 920 nm	0.07 cm ⁻¹ @ 595 nm
2400 lines / mm, 90 mm	430 nm .. 760 nm	0.06 cm ⁻¹ @ 570 nm
3000 lines / mm, 90 mm	370 nm .. 620 nm	0.05 cm ⁻¹ @ 560 nm

Power Output

Dye		Pump Power, 532 nm, 10 kHz		
		8 W	40 W	150 W
Rhodamine 6G	(570 nm)	1.2 W (14.5 %)	12 W (30 %)	45 W (30 %)
DCM	(630 nm)	0.7 W (8.5 %)	10 W (25 %)	37.5 W (25 %)
Styryl 8	(745 nm)	0.1 W (1.3 %)	4 W (10 %)	18.8 W (12.5 %)

Dye		Pump Power, 355 nm, 10 kHz		
		3 W	40 W	70 W
Coumarin 307	(500 nm)	0.18 W (6 %)	5.6 W (14 %)	10.5 W (15 %)
Coumarin 2	(450 nm)	0.18 W (6 %)	5.6 W (14 %)	10.5 W (15 %)
Exalite 389/398	(393 nm)	0.18 W (6 %)	5.6 W (14 %)	10.5 W (15 %)

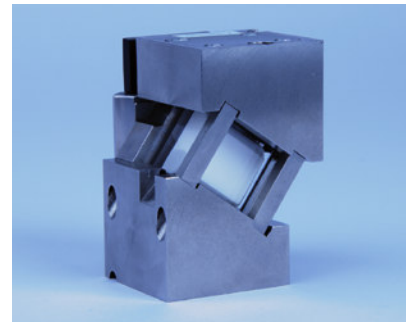
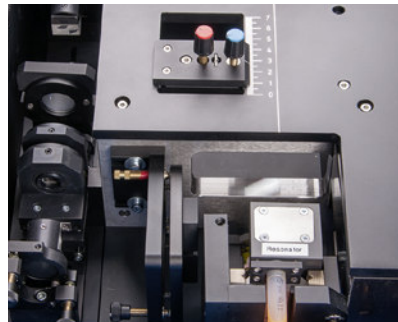
Wavelength and Beam Characteristics

Absolute Wavelength Accuracy	< 15 pm	(prism models: 0.5 nm)
Wavelength Resetability	< 2 pm	(prism models: 0.05 nm)
Wavelength Stability	< 1.5 pm / °C	(prism models: 10 pm / °C)
Divergence (typical)	1.0 mrad	(0.5 mrad with main amplifier)
Beam Size (typical)	0.8 mm (horizontal) x 2 mm (vertical)	
Polarization	> 98 %	(vertical)
ASE	< 0.5 %	
Pump Energies (resonator only)	< 25 mJ / 4 .. 35 ns / max. 20 W average power	
(with amplifier)	< 50 mJ / 4 .. 35 ns / max. 200 W average power	

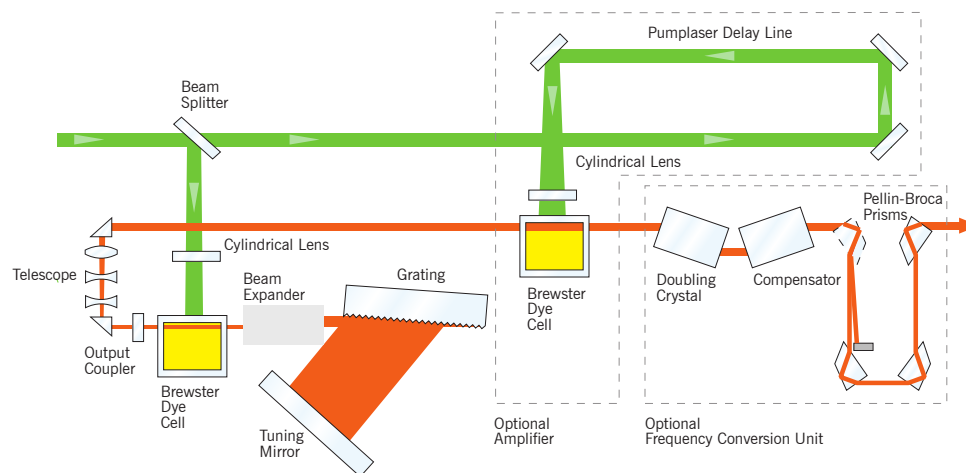
Options

- Amplifier for high energy systems
- Internal open loop frequency doubling
- Automatic exchange of gratings
- Double bandwidth option
- Double wavelength pump optic (532 nm, 355 nm)
- UV boost frequency conversion

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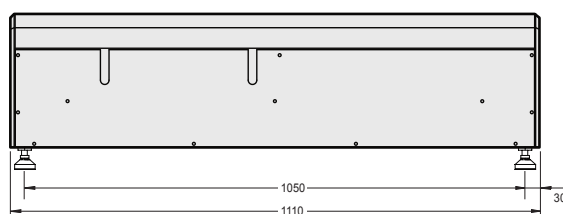
Optical Layout



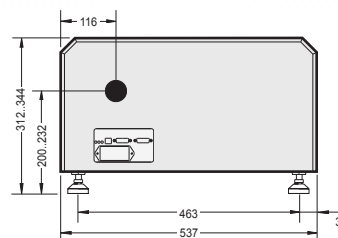
Requirements

Cooling for dye solvent	300 Watt (resonator), 600 Watt (resonator & amplifier)
Laboratory	dust-free air (flow box)
Voltage	110 .. 230 V, single phase, 50 / 60 Hz
Computer Control	XP / Vista / Windows 7 / Windows 8 / Windows 10 (32 & 64 bit), USB port

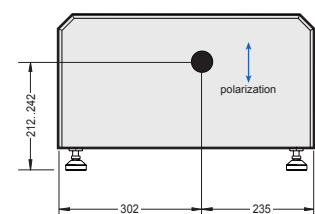
Dimensions



Credo Dye (side view)



Credo Dye (pump laser input end)



Credo Dye (dye laser output end)

All Dimensions in mm
Specifications are subject to change without notice



VISIBLE AND INVISIBLE
LASER RADIATION
AVOID EYE OR SKIN EXPOSURE TO
DIRECT OR SCATTERED RADIATION
CLASS 4 LASER PRODUCT

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