12/2021

Cobra-Stretch Dye Laser

Linewidth Specifications

Dispersion Option	Tuning Range	Linewidth		Efficiency
Three Quartz Prisms	370 nm .. 920 nm	0.15 nm [1]	5 cm^{-1} @ 570 nm	30 % [2]
1800 lines / mm, 60 mm	400 nm .. 920 nm	3.6 pm [4]	0.1 cm^{-1} @ 625 nm	30 % [3]
1800 lines / mm, 90 mm	400 nm .. 920 nm	2.5 pm [4]	0.07 cm^{-1} @ 625 nm	30 % [3]
2400 lines / mm, 60 mm	370 nm .. 760 nm	2.7 pm [4]	0.08 cm^{-1} @ 570 nm	30 % [2]
2400 lines / mm, 90 mm	370 nm .. 760 nm	1.8 pm [4]	0.06 cm^{-1} @ 570 nm	30 % [2]
3000 lines / mm, 60 mm	370 nm .. 620 nm	2.0 pm [4]	0.07 cm^{-1} @ 530 nm	30 % [2]
3000 lines / mm, 90 mm	370 nm .. 620 nm	1.4 pm [4]	0.05 cm^{-1} @ 530 nm	30 % [2]
Dual 1800 lines / mm	410 nm .. 900 nm	1.7 pm [4]	0.05 cm^{-1} @ 625 nm	27 % [3]
Dual 2400 lines / mm	370 nm .. 710 nm	1.2 pm [4]	0.04 cm^{-1} @ 530 nm	27 % [2]
Dual 3000 lines / mm	370 nm .. 580 nm	1.0 pm [4]	0.04 cm^{-1} @ 500 nm	27 % [2]

[1] for wavelength <660 nm
[2] resonator, pre- and main amplifier at 570 nm (peak Rhodamine 6G) pumped at 532 nm
[3] resonator, pre- and main amplifier at 625 nm (peak DCM) pumped at 532 nm
[4] value given for 450 nm

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	(0.4 mrad with main amplifier)
Polarization	> 98 %	(vertical)
ASE	< 0.5 %	
Pump Energies	8 .. 100 mJ @ 532 nm, resonator, pre-amplifier only	
	8 .. 80 mJ @ 355 nm, resonator, pre-amplifier only	
	50 .. 650 mJ @ 532 nm, with main amplifier (800 mJ[5])	
	50 .. 400 mJ @ 355 nm, with main amplifier(500 mJ[5])	

[5] with enhanced beam profile (capillary) dye cell

Requirements

Voltage	110 .. 230 V, single phase, 50 Hz / 60 Hz
Control Computer	XP / Vista / Windows 7 / Windows 8 / Windows 10, USB Port

Options

Main amplifier for higher output energy
Double wavelength pump optic (532 nm, 355 nm)
Frequency doubling / mixing units (external housing)
Automatic exchange of gratings
Piezo wavelength control
Dynamic mode option
Double bandwidth option

Cobra-Stretch Dye Laser

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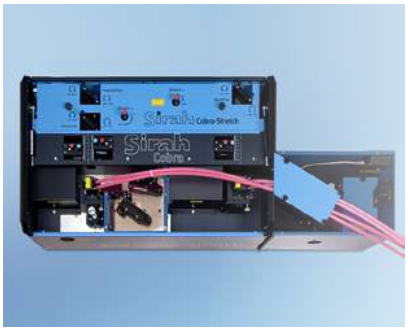
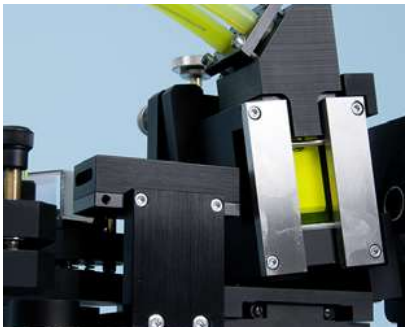
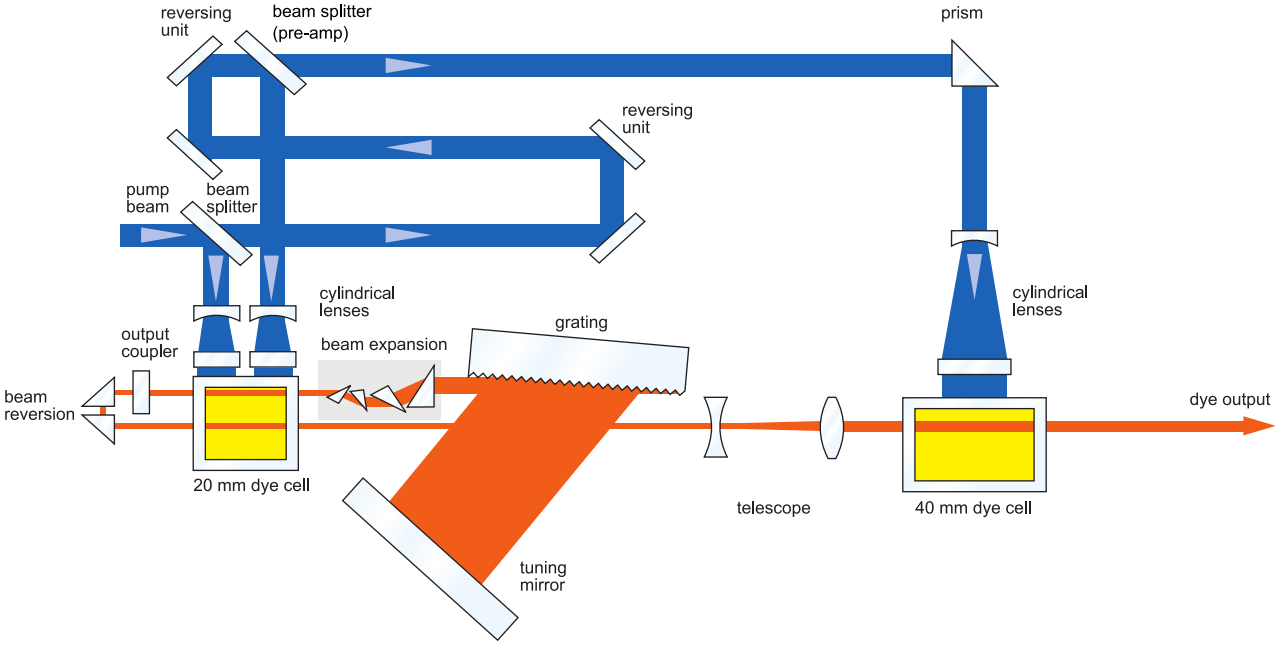
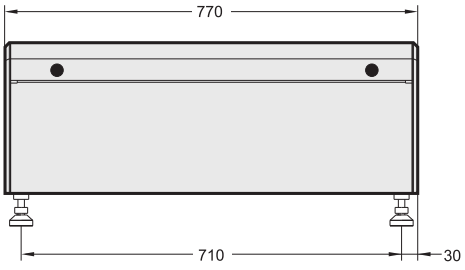




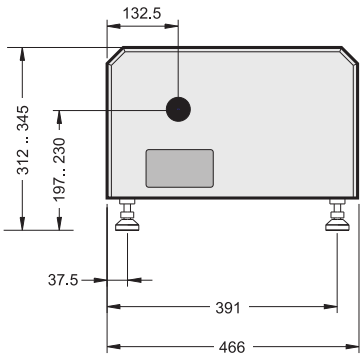
Optical Layout



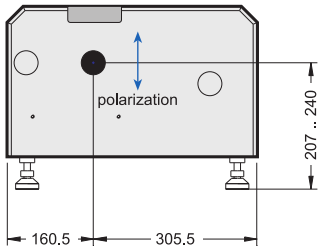
Dimensions



Cobra-Stretch (side view)



Cobra-Stretch (pump laser input end)



Cobra-Stretch (dye laser output end)

All Dimensions in mm
Specifications are subject to change without notice

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