

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	0.1 cm ⁻¹ @ 625 nm	30 % ³⁾
1800 lines / mm, 90 mm	400 nm .. 920 nm	2.4 pm	0.06 cm ⁻¹ @ 625 nm	30 % ³⁾
2400 lines / mm, 60 mm	370 nm .. 760 nm	2.7 pm	0.08 cm ⁻¹ @ 570 nm	30 % ²⁾
2400 lines / mm, 90 mm	370 nm .. 760 nm	1.8 pm	0.06 cm ⁻¹ @ 570 nm	30 % ²⁾
3000 lines / mm, 60 mm	370 nm .. 620 nm	2.0 pm	0.06 cm ⁻¹ @ 570 nm	30 % ²⁾
3000 lines / mm, 90 mm	370 nm .. 620 nm	1.4 pm	0.05 cm ⁻¹ @ 570 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 @ 570 nm	27 % ³⁾
Dual 3000 lines / mm	370 nm .. 580 nm	1.0 pm ⁴⁾	0.03 cm ⁻¹ @ 570 nm	27 % ³⁾

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⁾ exact linewidth depends weakly on wavelength; 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

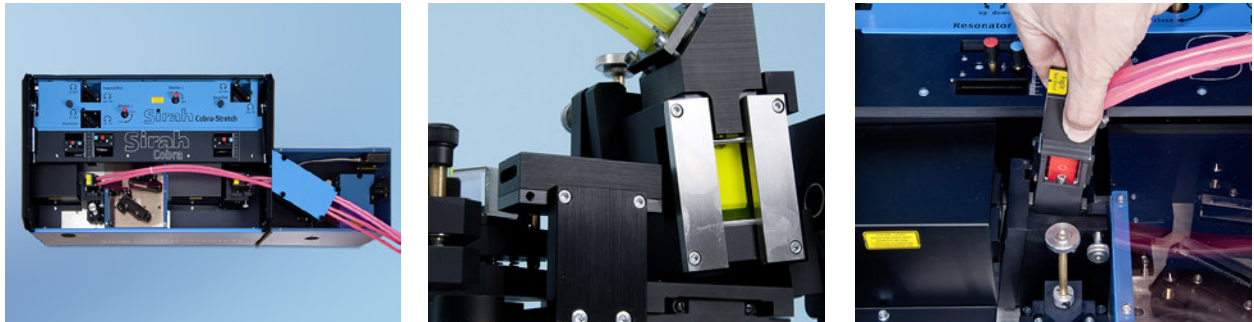
Voltage	110 .. 230 V, single phase, 50 Hz / 60 Hz
Control Computer	XP / Vista / Windows 7 / Windows 8 / Windows 10, USB Port

Options

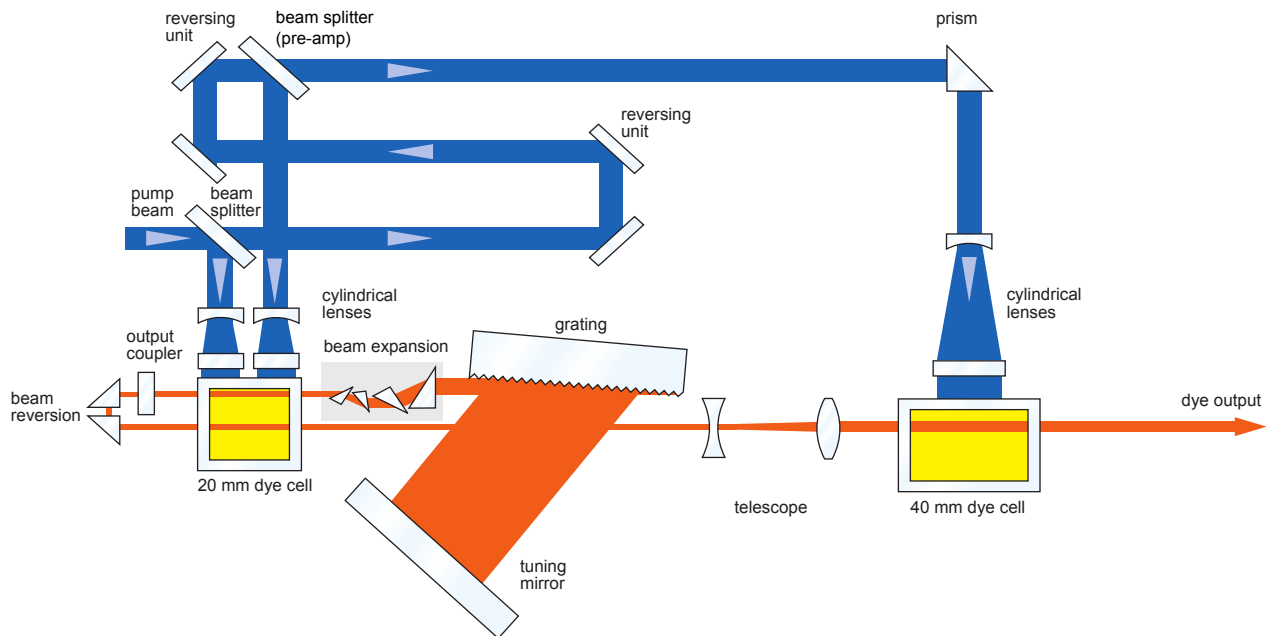
- Main amplifier for higher output energy
- Double wavelength pump optic (532 nm, 355 nm)
- Frequency doubling / mixing units (external housing)
- Automatic exchange of gratings
- Piezo wavelength control
- Dynamic mode option
- Double bandwidth option

Cobra-Stretch Dye Laser

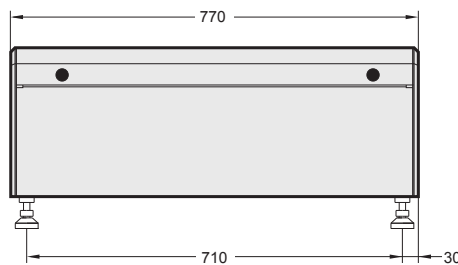
Cobra-Stretch Dye Laser



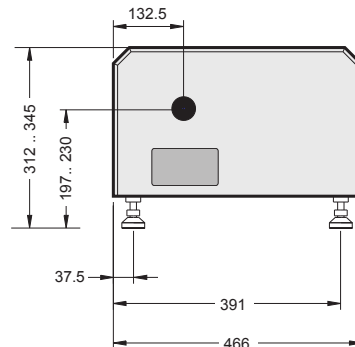
Optical Layout



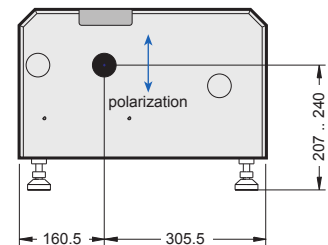
Dimensions



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



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

Heinrich-Hertz-Straße 11 phone +49 21 82.82 98 18-0
D-41516 Grevenbroich fax +49 21 82.82 98 18-40

Sirah
Lasertechnik



Photonic Solutions Ltd Unit 2.2, Quantum Court, Research Avenue South,
HWU Research Park, Edinburgh, EH14 4AP, UK, Tel: +44 (0)131 664 8122
Email sales@photronicsolutions.co.uk Web www.photronicsolutions.co.uk