

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 @ 625 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 | 0.06 cm ⁻¹ @ 530 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 %) | 50 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 %) | | | | |

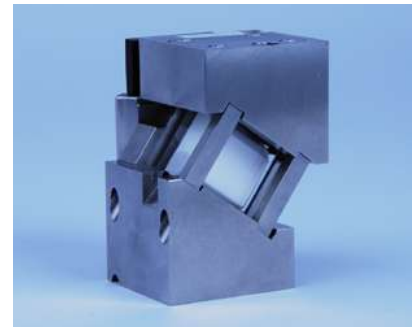
Wavelength and Beam Characteristics

| | | |
|--------------------------------|---|--------------------------------|
| 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 | |

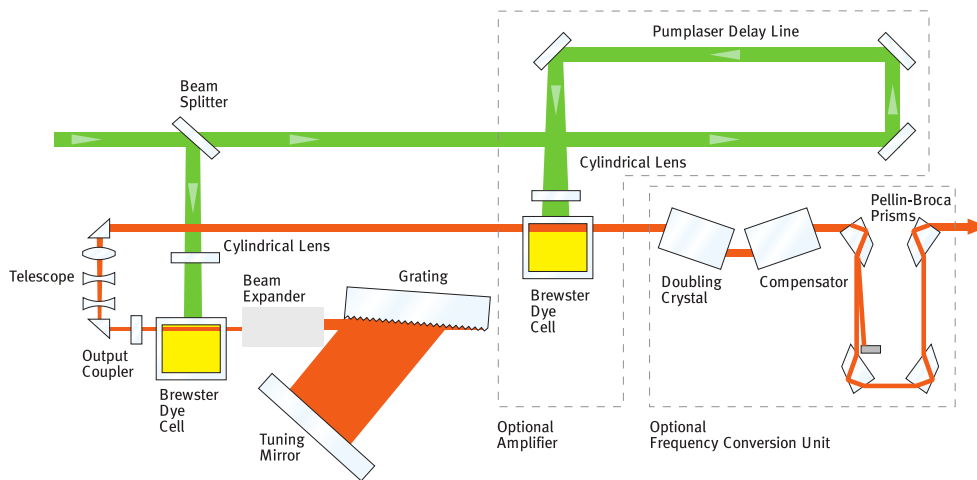
Options

- 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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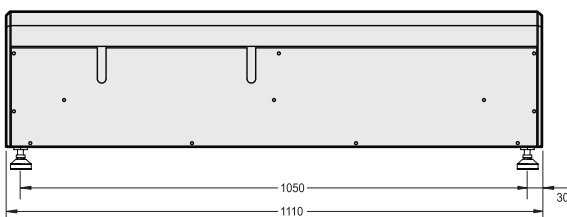
Optical Layout



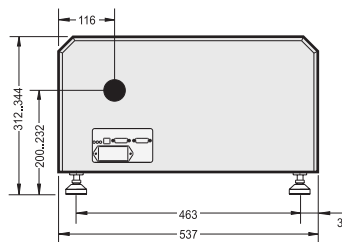
Requirements

| | |
|-------------------------|---|
| 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 |

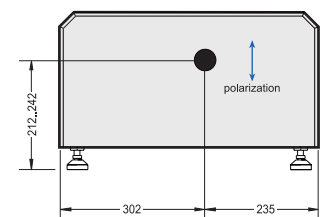
Dimensions



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



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