

LIOPSTAR-HQ

high repetition rate dye laser



- low ASE < 0,5%
- repetition rates up to 100 kHz
- highly efficient polarization matched laser resonator
- flow optimized oscillator and amplifier cells
- amplifier cell in Brewster angle
- state-of-the-art integrated electronics and user friendly LabView Software
- USB port
- remote control via TCP / IP protocol
- smallest footprint

frequency conversion units

- internal open loop frequency doubling with look-up-table
- temperature stabilized BBO crystals
- high scan speed, up to 10 nm/min
- usable for repetition rates from < 1 Hz up to 100 kHz

Options

- “Boost” option, 2 BBOs in series, recommended for pump power >70W
- 3rd amplifier cell for high pulse energy operation
- temperature and flow monitoring

linewidth specifications			LIOPSTAR-HQ
	Grating	tuning range	linewidth
LIOPSTAR-HQ	1800 l/mm, 90 mm	430 nm – 900 nm	< 0.07 cm ⁻¹ @ 570 nm
LIOPSTAR-HQ	2400 l/mm, 90 mm	430 nm – 750 nm	< 0.06 cm ⁻¹ @ 570 nm
specifications			LIOPSTAR-HQ
Nd:YAG pumped 532 nm, 10 kHz, 10ns			
150 W	Rhodamine 6G DCM	>40 W @ 564 nm, (>25%) >35 W @ 640 nm, (>20%)	> 6 W @ 282 nm (0.6 mJ)* > 5.5 W @ 320 nm (0.55 mJ)*
90 W	Rhodamine 6G DCM DCM & LDS 698	>25 W @ 564 nm >25 W @ 640 nm > 25 W @ 655 nm	> 3.5 W @ 282 nm (0.35 mJ)* > 3.5 W @ 320 nm (0.35 mJ)* > 3.5 W @ 327.5 nm (0.35 mJ)*
50 W	Rhodamine 6G DCM	> 12 W @ 564 nm > 10 W @ 640 nm	> 1.7 W @ 282 nm (0.15 mJ) > 1.5 W @ 320 nm (0.13 mJ)
Nd:YAG pumped 355 nm, 10 kHz, 10ns			
70 W	Coumarin 120 Coumarin 102	10.5 W @ 442 nm 10.5 W @ 488 nm	> 1.5 W @ 221 nm (0.15 mJ) > 1.5 W @ 244 nm (0.15mJ)
50 W	Coumarin 120 Coumarin 102	> 7.5 W @ 442 nm > 7.5 W @ 488 nm	> 1.1 W @ 221 nm (0.11mJ) > 1.1 W @ 244 nm (0.11 mJ)
wavelength reproducibility		< 0.002 nm	
absolute accuracy		< 0.01 nm	
scan linearity		< 0.002 nm	
wavelength stability		< 0.001 nm/°C	
Divergence		0.5 mrad	
Polarisation		> 98 % vertical	
ASE-background		< 0.5 %	
dimensions			LIOPSTAR-HQ
LIOPSTAR-HQ		1040 mm x 400 mm x 300 mm ± 10 mm, 80 kg	
beam input height		180 mm ± 10 mm	
beam output height		200 mm ± 10 mm	
requirements			LIOPSTAR-HQ
cooling for dye solvent		800 Watt, resonator & amplifier system	
Laboratory		dust-free air (flow box)	
Voltage		110...230V, single phase, 50 Hz/ 60 Hz	
Computer		single USB port	
operating system		Windows XP/ Windows Vista/ Windows 7/ Windows 10	

* with Boost option

specifications are subject to change without notice

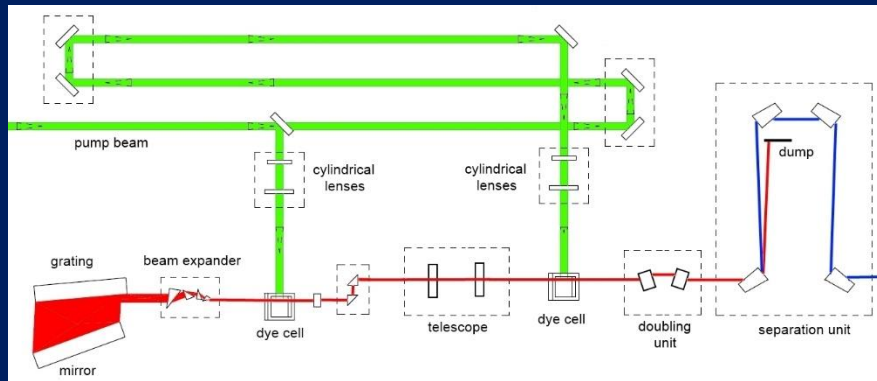
Amplifier cell in Brewster angle

Due to the amplifier dye cell set up in Brewster angle, the reflections and the parasitic lasing are minimized. This leads to an overall higher performance of the laser output.

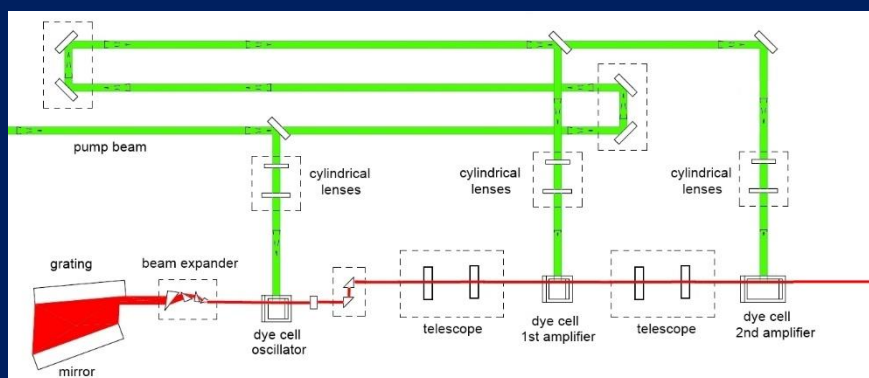
- Reducing of back reflections
- Reducing of parasitic lasing
- Reducing of ASE
- Higher conversion efficiency



LiopStar-HQ



LiopStar-HQ with 3rd amplifier



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