

## 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
- 3<sup>rd</sup> amplifier cell for high power 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 <sup>-1</sup> @ 570 nm
LIOPSTAR-HQ	2400 l/mm, 90 mm	430 nm – 750 nm	< 0.06 cm <sup>-1</sup> @ 570 nm
specifications		LIOPSTAR-HQ	
conversion efficiency: Nd:YAG pumped 532 nm, 10 kHz, 10ns, 40W Nd:YAG pumped 355 nm, 10 kHz, 10ns, 15W	25% @ 564 nm, 10 W 20% @ 640 nm, 8 W 13% @ 440 nm, 2 W	Rhodamine 6G DCM Coumarin 120	
conversion efficiency: Nd:YAG pumped 532 nm, 10 kHz, 10ns, 90W Nd:YAG pumped 355 nm, 10 kHz, 10ns, 40W	25% @ 564 nm, >22 W 25% @ 640 nm, >22 W 15% @ 440 nm, >6 W	Rhodamine 6G DCM Coumarin 120	
conversion efficiency SHG (with Boost option)	>15% @ 282nm, >3.5W (pumped by 90W@532nm)		
conversion efficiency: Nd:YAG pumped 532 nm, 1 kHz, 150ns, 90W	23 W, 25% @ 564 nm >1 W, > 4% @ 282 nm	Rhodamine 6G SHG	
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		
pump laser pulse power, kHz operation	up to 150 Watt		

specifications are subject to change without notice

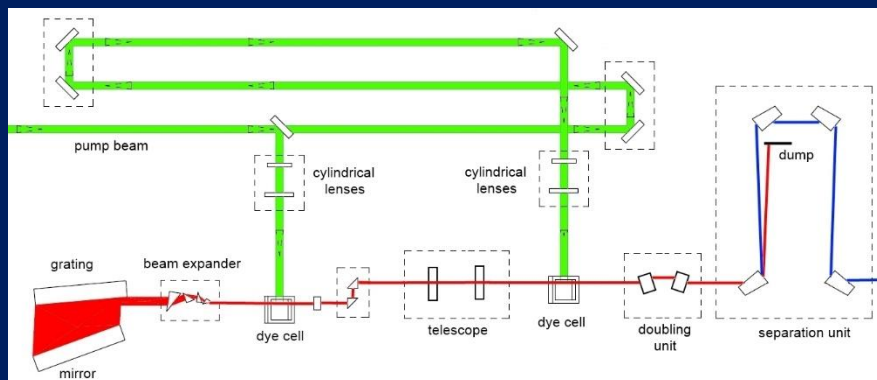
## Amplifier cell in Brewster angle

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.

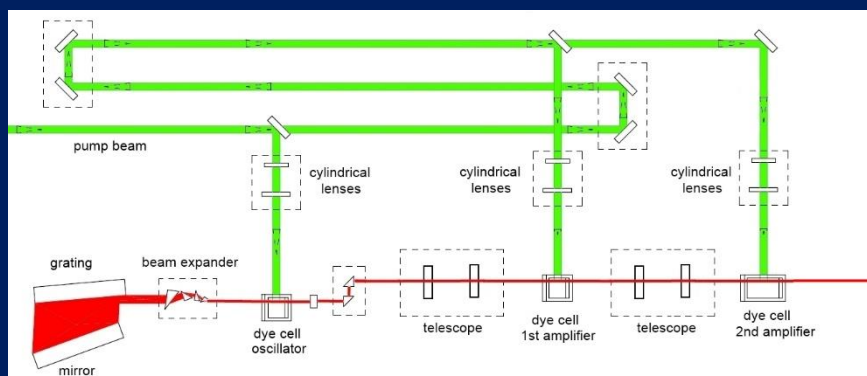
- Reducing of back reflections
- Reducing of parasitic lasing
- Reducing of ASE
- Higher conversion efficiency



## LiopStar-HQ



## LiopStar-HQ with 3<sup>rd</sup> amplifier



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