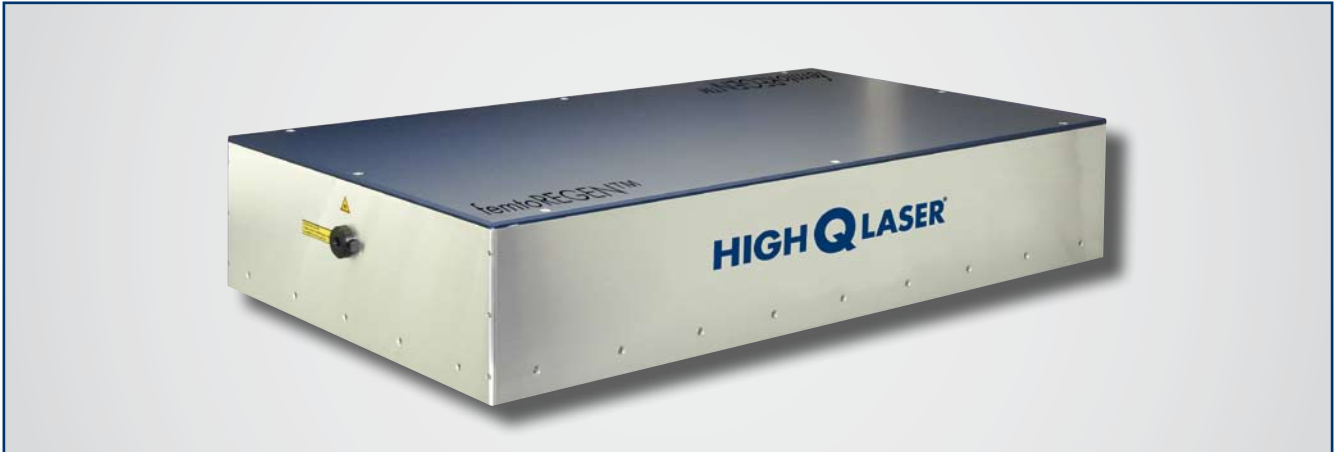


femtoREGEN™ Science

All-in-one femtosecond regenerative amplifier system



femtoREGEN™	SC-1035-1000 HE	SC-1035-2000 HEHR	SC-1055-100	SC-1055-200
Wavelength ¹⁾	1035 +/- 5 nm	1035 +/- 5 nm	1055 +/- 5 nm	1055 nm +/- 5 nm
Pulse width (FWHM), typical ²⁾	500 fs	350 fs	650 fs	650 fs
Average output power	1 W	2 W	100 mW	200 mW
Pulse repetition rate ³⁾	1 kHz	1 - 100 kHz	10 Hz - 1 kHz	1 - 40 kHz
Pulse energy max	1 mJ @ 1 kHz	0.4 mJ @ 1 kHz	1 mJ @ 10 Hz	5 µJ @ 40 kHz
Laser material ⁴⁾	Ytterbium		Nd:Glass	
Power stability, typical	< 1 % RMS (12h)			
Beam quality	TEM ₀₀ ; M ² ≤ 1.5			
Polarization	horizontal / vertical (TBD)			
Power supply	90 VAC - 240 VAC, 50/60 Hz, < 500 W			
Laser head size	902 or 1102 x 502 x 166 mm ³ (l x w x h), not including pedestals			
Beam height	101.6 mm (4"), not including pedestals			
Controller size	600 x 590 x 550 mm ³ (l x w x h), 19" rack			
Chiller	400 x 200 x 557 mm ³ (l x w x h), 115 VAC or 230 VAC 50/60 Hz, < 2000 W (incl. heater)			
Operation ambient temp.	18 °C to 30 °C			

All specifications are typical data and subject to change without notice in order to provide the best product possible.

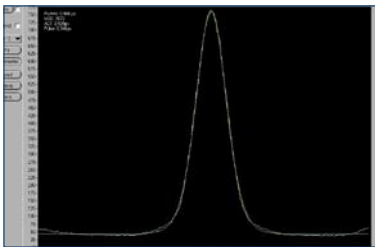
1) other wavelengths on request

2) +/- 10%, shorter pulse widths down to 250 fs on request

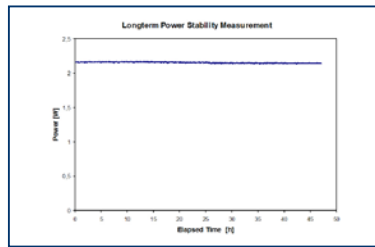
3) pulse repetition rates up to 2 MHz on request

4) different laser materials on request

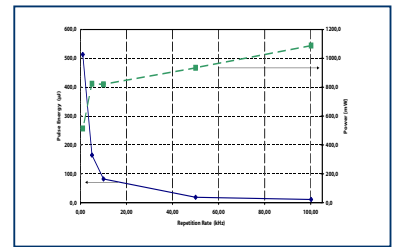
Main Features	Customer benefits
• Integrated femtoTRAIN™ seed laser	• Service friendly compact and modular setup
• Passive self-starting modelocking by saturable Bragg reflectors	• High temporal and spatial stability
• User replaceable fiber-coupled diode module (URDM)	• USB software remote control (optional via internet)
• FEA optimized industrial mirror mounts	• Remote maintenance via internet (optional)
• Multiple beam exits for simultaneous access to all wavelengths (opt.)	• Synchronised IR, Green and UV pulses (optional)
• Modular Pockels cell & Pockels cell driver	• Variable power ration via motorized attenuator (optional)



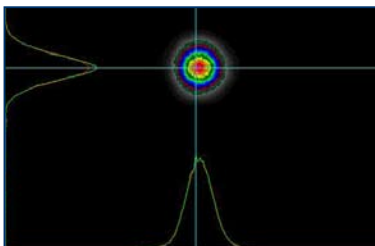
Typical Intensity Autocorrelation
Autocorr. duration 535 fs
Pulse duration 348 fs



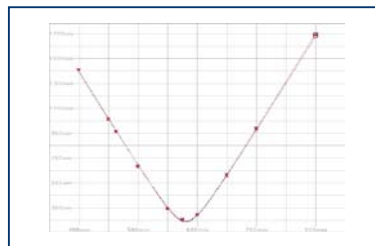
Power Stability
Measurement duration 50h
Mean 2.15 W | RMS 0.36 %



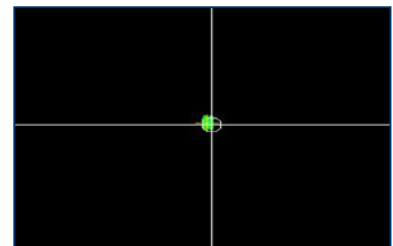
Typical relation of power and pulse energy versus repetition rate
Pulse energy 513 μ J @ 1 kHz
Power 1090 mW @ 100 kHz



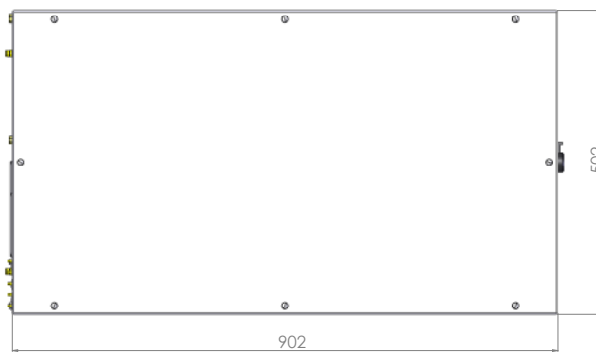
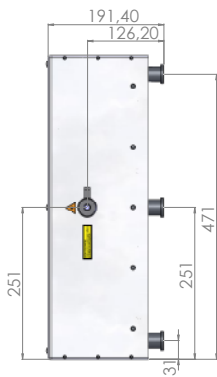
Typical IR beam profile of femtoREGEN Yb



Typical Beam Quality
M2 X 1.06, M2 Y 1.08
Ellipticity 1.02



Typical Beam Pointing over 1 h Time
FL=400 mm, replate 100 kHz
Mean < 20 μ rad, RMS < 5 μ rad



Applications

- Femtosecond laser dissection
- Laser ablation
- Pulsed laser deposition
- OPA pumping
- Femtosecond spectroscopy
- Nonlinear optics
- High-energy physics

Please Inquire About

- OPA *femtoTUNE*™: Tunable output from 200 nm - 3000 nm
- Frequency conversion (SHG, THG, FHG, OPA)
- Optical pulse picker
- Picosecond laser systems
- Applications laboratory for sample testing
- OEM and customized versions

