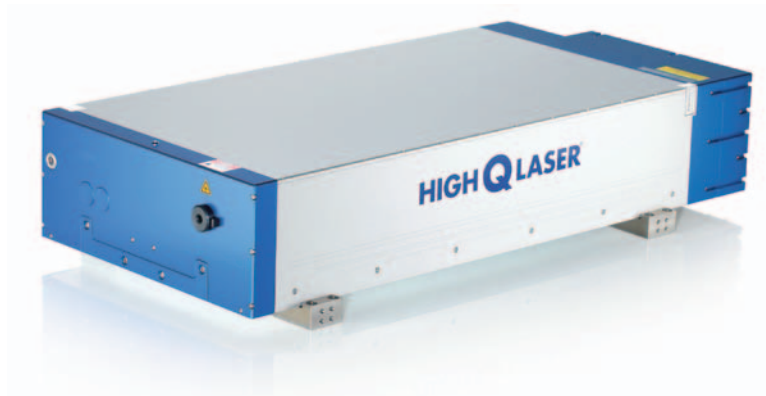


# femtoREGEN™ Ultra Compact

All-in-one femtosecond regenerative amplifier system



femtoREGEN™	UC-1030-2000	UC-1040-4000
Wavelength <sup>1)</sup>	1030 nm +/- 5 nm	1040 nm +/- 5 nm
Pulse width (FWHM), typical	350 fs +/- 50 fs	
Average output power	> 2 W	> 4 W
Pulse repetition rate <sup>2)</sup>	Single pulse - 200 kHz (TTL-Trigger)	
Max. Pulse energy	> 20 µJ @ 100 kHz	> 20 µJ @ 200 kHz
Power stability, typical	< 1 % RMS (12h)	
Beam quality	TEM <sub>00</sub> ; M <sup>2</sup> ≤ 1.25	
Beam diameter / divergence	typical values 1 mm / 2.5 mrad (full width at 1/e <sup>2</sup> )	
Polarization	horizontal or vertical (TBD)	
Beam height	101.6 mm (4"), not including pedestals	
Laser head size	860 x 340 x 160 mm <sup>3</sup> , not including pedestals	
Controller size <sup>3)</sup>	19" rack, 600 x 590 x 1170 mm <sup>3</sup> (l x w x h), including closed-loop, recirculation water chiller	
Power supply	90 VAC - 240 VAC, 50/60 Hz, < 3.7 kW	
Operation ambient temp.	18 °C to 26 °C	

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

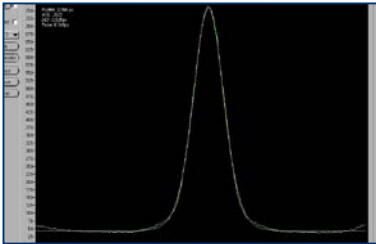
1) Other wavelengths on request

2) Up to 1 MHz on request

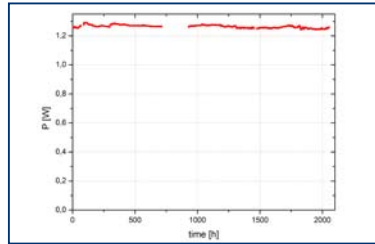
3) Without wheels (125 mm)

4) With controller upgrade (zero air module)

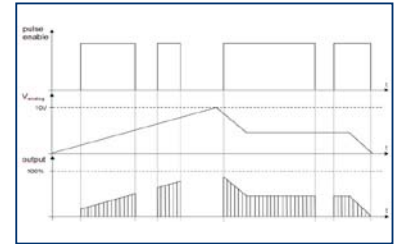
Main Features	Customer benefits
• Integrated femtoTRAIN™ Ultra Compact seed laser	• Service interval > 1 year
• Passive self-starting modelocking by saturable bragg reflectors	• Integrated pulse-picker: TTL pulse enable and attenuator function
• Shock and vibration tested	• Burst mode for arbitrary pulse sequences
• Modular Pockels-cell and Pockels-cell driver	• High temporal and spatial stability
• All-in-one controller system	• TCP/IP remote control (optional USB / CAN bus)
• Diode modules with de-rated pump current (long lifetime)	• Remote maintenance via internet



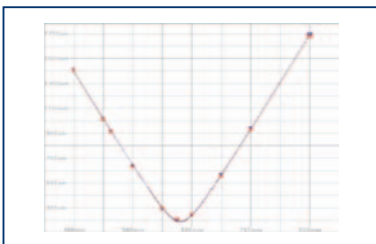
**Typical Intensity Autocorrelation**  
Autocorr. duration 535 fs  
Pulse duration 348 fs (sech<sup>2</sup>)



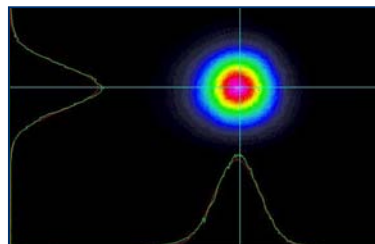
**Typical Power Stability**  
**UC-1030-2000**  
Measurement duration 2055h  
RMS 1.03 %, attenuated to 1.25 W



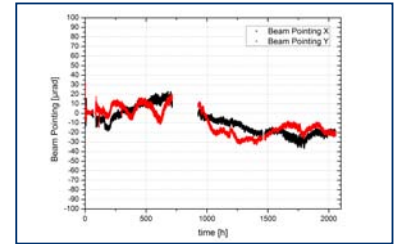
**Pulse Picker Functionality**  
TTL pulse enable and fast 300 kHz  
attenuator signal resulting in burst mode for  
arbitrary pulse sequences



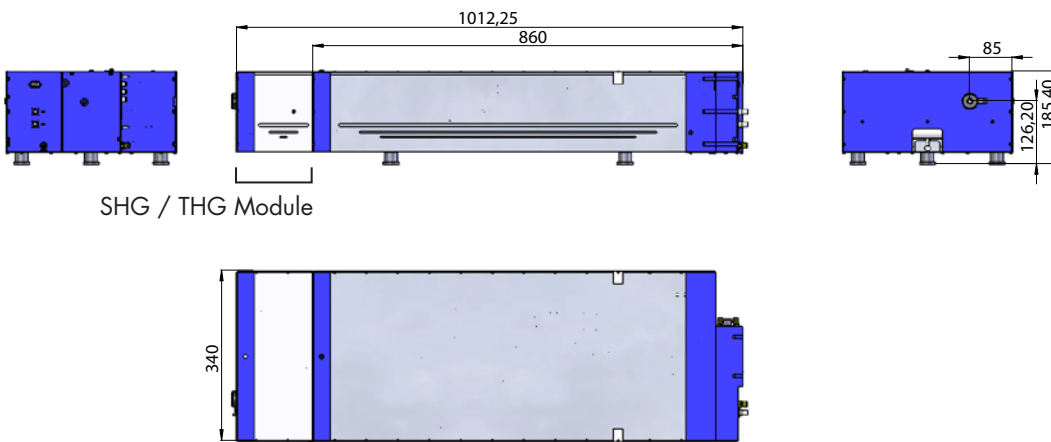
**Typical Beam Quality**  
M<sup>2</sup> X 1.06, M<sup>2</sup> Y 1.08  
Ellipticity 1.02



**Typical IR Beam Profile**  
*femtoREGEN Yb*



**Typical Beam Pointing Stability**  
**UC-1030-2000**  
Measurement duration 2055h  
-37 µrad < beam pointing angle < 34 µrad



## Applications

- Femtosecond Laser Dissection
- Thin Film Ablation
- OPA pumping
- Femtosecond Spectroscopy
- Nonlinear Optics
- Nano Processing
- Waveguide Writing
- Biological Tissue Ablation and Machining

## Please Inquire About

- OEM and customized versions
- Applications laboratory for Nano Processing

