gecco

Self-starting femtosecond laser

- 84MHz or 100MHz options
- Pulse duration and power options
- Stable, long term mode-lock
- Integrated PZT for repetition rate locking

Overview

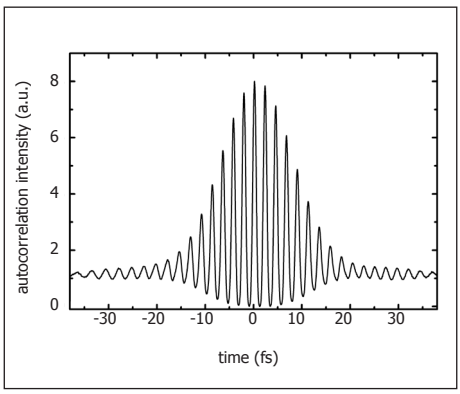
The **gecco** is a fully equipped, compact femtosecond laser in a sealed enclosure, available with an average power of 600mW and with a choice of sub 15fs or sub 20fs pulse durations. The **gecco** is offered with repetition rates of 84MHz or 100MHz, and in both cases it is possible for the repetition rate to be locked to an external source.

Designed for simple installation and system integration, the **gecco** features a highly compact, vibration resistant laser head with an **opus 532nm** integrated pump source, and a separate, fully featured control unit connected through two detachable cables.

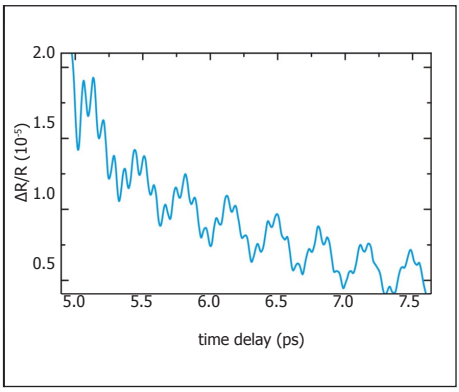
This highly stable laser boasts an industry leading lifetime and very low cost of ownership and comes with by a 2 year/unlimited hours warranty covering all operating specifications.

Optional repetition rate and active feedback

If required, control of the repetition rate can be achieved using a low speed piezo mounted cavity mirror with active feedback added using a second, high speed piezo. Regulation through the **TL-1000** repetition rate stabilisation unit achieves a timing jitter below 100fs. Alternatively, the piezos can be driven by customer supplied electronics.



Autocorrelation trace of **gecco** indicating emission of pulses with 15fs duration.



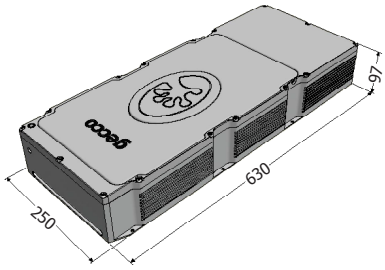
Pump-probe signature of coherent optical phonons in ZnO measured with the **gecco**.

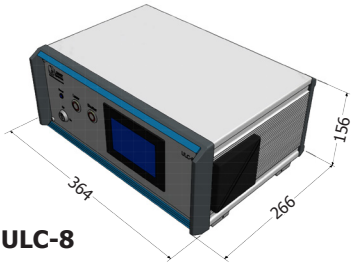
The **gecco** can be used with the RemoteApp™ software that allows the pump laser to be controlled over the internet and connected to the Laser Quantum support team for monitoring laser performance, diagnosing opportunities for and carrying out laser optimisation.

gecco

Laser Quantum

Dimensions (mm)





ULC-8

Other information

Umbilical length: 2m
Cooling system included
Laser head weight: 24kg
2 years warranty
Please contact us for further details

Drawings are for illustrative purposes only. Please contact Laser Quantum for complete engineer's drawings.

Specifications*

	gecco one	gecco ultra
Spectral output (FWHM)	>45nm	>50nm
Pulse duration[1]	<20fs	<15fs
Average power output[1]	600mW	
Centre wavelength	800nm (±20nm)	
Repetition rate[1,2]	84MHz | 100MHz	
Pulse energy	7.0nJ (84MHz) | 6.0nJ (100MHz)	
Beam diameter (FWHM)	~1.2mm (±0.2mm at 25°C)	
Spatial mode	TEM_{00}	
Beam Divergence	<2mrad	
M-squared	<1.2	
Power stability[3]	±1%	
Noise	<0.2% RMS	
Polarisation	>100:1	
Polarisation direction	Horizontal	
Operating temperature	21°C (±5°C)	
Head weight	24kg	
Warm up time	20 minutes	
Applications	amplifier seeding, ultrafast spectroscopy, THz spectroscopy & imaging, two-photon polymerisation, thin-film metrology, materials processing, CARS, nonlinear microscopy	

* Laser Quantum operates a continuous improvement programme which can result in specifications being improved without notice.
[1] Select at time of purchase.
[2] Accuracy ±1MHz, higher accuracy available on request.
[3] Measured over 8 hours after cold-start within operating temperature range.

LASER QUANTUM LTD
tel: +44 (0) 161 975 5300
email: info@laserquantum.com
web: www.laserquantum.com

LASER QUANTUM INC
tel: +1 408 510 0079
email: info@laserquantum.com
web: www.laserquantum.com

LASER QUANTUM GmbH
tel: +49 7531 368371
email: info@laserquantum.com
web: www.laserquantum.com

VA1.0