

venteon^{one}

Ideal laser solution for sub 8fs pulses



- Pulse duration <7fs (FTL), <8fs (measured)
- Output power >240mW
- Spectral bandwidth >200nm
- Integrated pump laser
- 80MHz repetition rate



Overview

The **venteon one** laser system is a versatile and robust option as an entry level to few cycle ultra-short pulses. Highly compact (a footprint of 250x630mm), it offers a wide spectral bandwidth of over 200nm (Fig. 1) leading to pulse durations below 8fs with typical values around 6.5fs (Fig. 2). It is ideally suited to microscopy, spectroscopy and pump probe experiments that require a reliable, simple, turn-key laser solution for ultra-short pulses with a moderate power.

Laser Quantum supports clarity in reporting pulse duration and detailing whether our figures are theoretical values based on Fourier transform calculations or actual measured durations using SPIDER technology and instrumentation. In the case of the **venteon one**, the Fourier transform specification is <7fs, with a specified measured pulse of <8fs. The small difference between these two values demonstrates the excellent phase control of the laser.

The monolithic design is optimised for a low pump threshold and is supplied with an integrated **opus** 4W pump laser. All critical opto-mechanical components are mounted onto a single, water cooled base plate that ensures a robust system that delivers long-term stability and great ease of use.

Designed for simple installation and system integration, the **venteon one** features a highly compact, vibration resistant laser head with an 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.

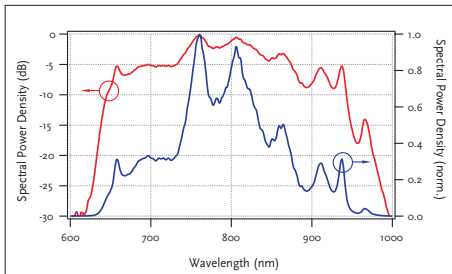


Fig 1. **venteon one** laser system spectrum shown on a logarithmic (red) and linear (blue) scale.

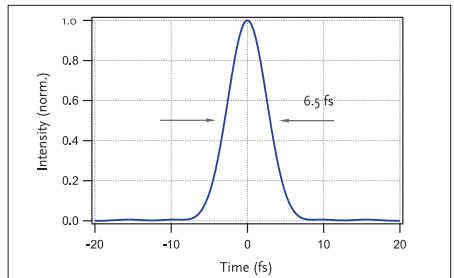


Fig 2. Fourier-limited pulse as supported by the **venteon one** laser system, featuring a pulse duration below 7fs.



The **venteon one** pump laser can be controlled across the internet via the RemoteApp™ software that also allows connection to the Laser Quantum support team for monitoring laser performance, diagnosing opportunities for and carrying out laser optimisation.



The **venteon one** pump laser range features an intelligent control unit that allows easy setting and monitoring of the laser parameters. Incorporating PowerLoQ™ technology, the **venteon one** lasers show extreme power stability over long periods of use.

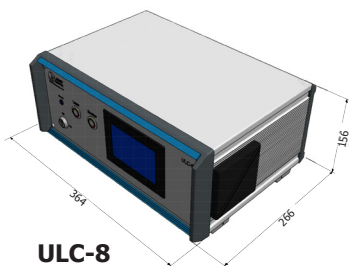
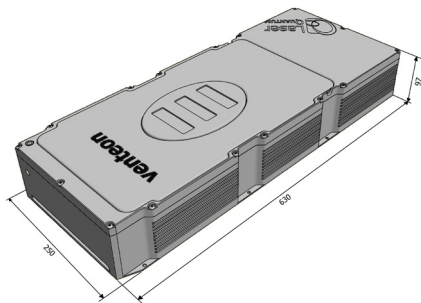
Dimensions (mm)

Other information

- Water cooling included
- Weight 24kg
- 2 year warranty



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



Specifications*

	venteon one
Wavelength	800nm ±20nm
Average power output	>240mW
Pulse energy	>3nJ (@80MHz)
Spectral bandwidth (FWHM)	>100nm
Spectral bandwidth (@-10dBc)	>200nm
Pulse duration (Measured)	<8fs
Pulse duration (FTL)	<7fs
rms noise	<0.2%
Integrated pump	opus 4W pump laser
M-Squared	<1.2
Repetition rate	80MHz
Power stability (Over 24hrs)	<1%

* Laser Quantum operates a continuous improvement programme which can result in specifications being improved without notice.

Variants and upgrades

As an entry level system, the **venteon one** is only available in its fully functional design with integrated compact **opus** 4W pump laser.

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