VALO Femtosecond Series

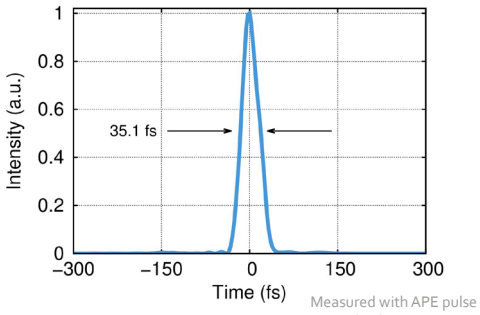
< 50 fs - Ultrashort femtosecond fiber lasers

Applications

Multiphoton microscopy
Optogenetics
Two-photon polymerization
Terahertz generation
Supercontinuum generation
Spectroscopy

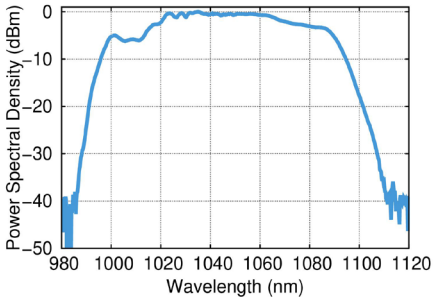
- <50 fs pulse duration
- Various power levels (Up to 2 W)
- Integrated dispersion precompensation
- Very low noise performance
- Laser head passively cooled (No water & no fan)
- User friendly design - remote controllable

Temporal profile



Measured with APE pulse Check + FROG

Optical spectrum



The VALO Series of ultrafast fiber lasers are unique in their design offering amoungst the shortest femtosecond pulses and highest peak powers which can be obtained from a compact turn-key solution. Pulse durations of <50 fs are achieved using novel fiber laser based technology.

The ultrashort pulse durations combined with computer controlled group velocity dispersion pre-compensation, allow users of the VALO fs fiber lasers to achieve the highest peak power exactly where its needed, which makes the lasers ideal for use in multiphoton imaging, advanced spectroscopy and many other applications.

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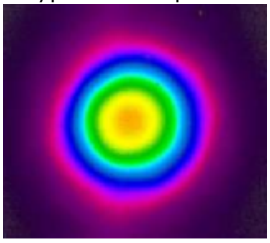
Specifications

	VALO Aalto	VALO Tidal (PRELIMINARY*)
Pulse duration (FWHM)	< 50 fs (typ. 40 fs)	
Center wavelength	1050 ± 10 nm	
Spectral bandwidth	> 90 nm (@ -10 dB)	
Power stability (RMS)	< 0.1 % (24 hours)**	
Average power	> 200 mW	> 2 W
Repitition rate	30 ± 1 MHz (Other repetition rates upon request)	
Pulse energy	> 6.6 nJ	> 66 nJ
Peak power	166 kW (typ.)	1.6 MW (typ.)
Dispersion comp. range	- 300,000 to + 50,000 fs^2	
Polarization	Linear	
PER	> 100:1	
M^2	< 1.2 (typ. < 1.15)	< 1.3 (typ. < 1.2)
Warm up time	< 2 min	
Divergence	< 2 mrad	
Astigmatism	< 0.1	
Asymmetry	< 1.1	

**Preliminary data for VALO Tidal Model not yet market released. ** For constant temperature*

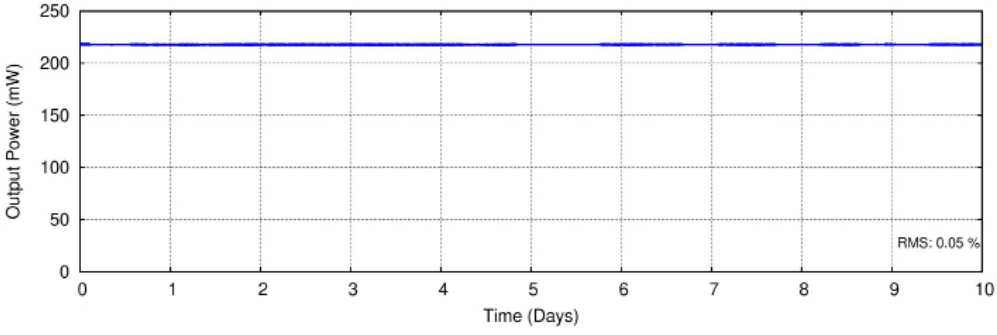
Performance Data

Typical beam profile



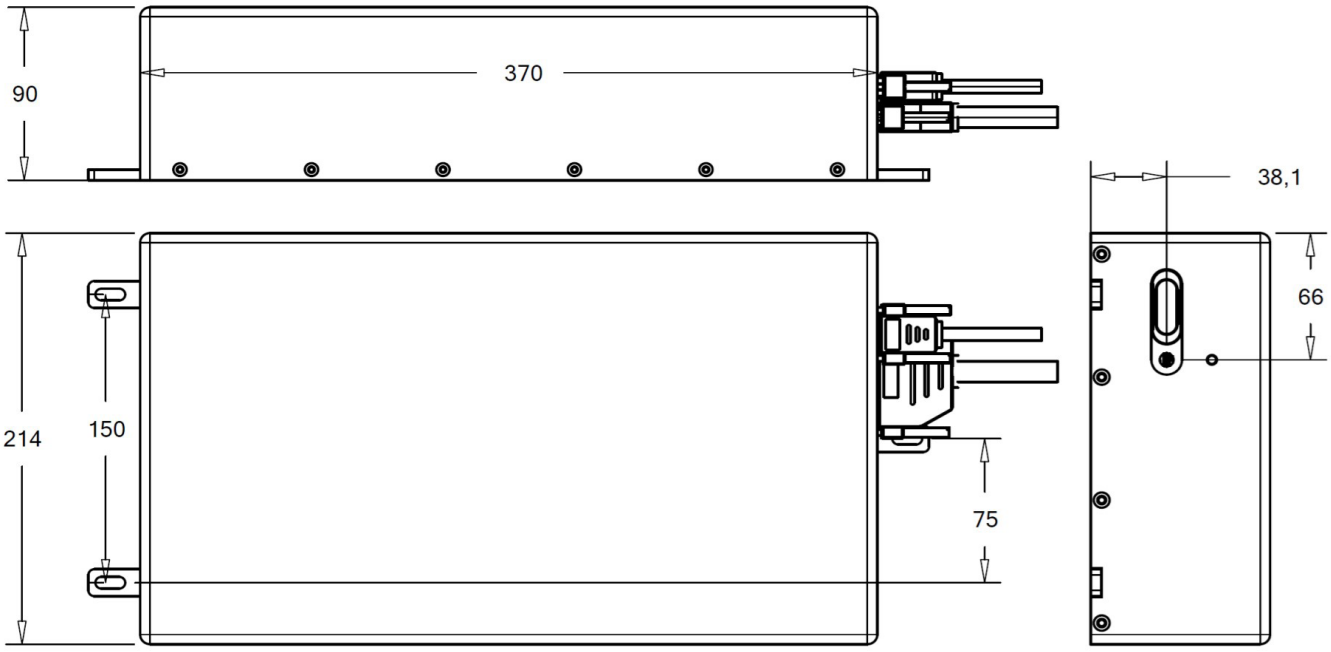
VALO Tidal

Long term measurement



VALO Femtosecond Series

Mechanical specification



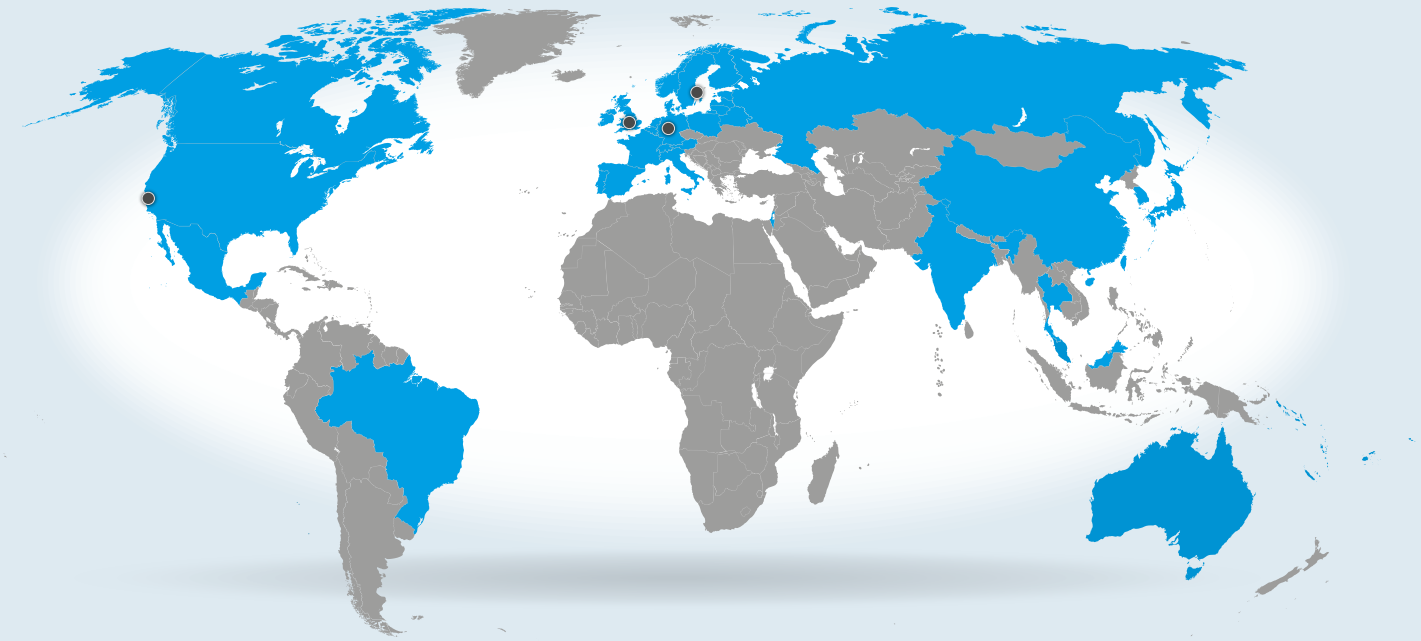
Specifications apply to both VALO Aalto and VALO Tidal

WARNING
VISABLE AND INVISIBLE
LASER RADIATION

This device contains components that might be sensitive to Electrostatic Discharge (ESD). ESD Protection can be achieved with proper electrical grounding

VALO Aalto
Invisible laser radiation
Avoid exposure to beam
Class 3B Laser Product
Classified by DIN EN 60825-1:2015-07

VALO Tidal
Invisible Laser Radiation
Avoid eye or skin exposure to direct or scattered radiation
Class 4 Laser Product
Classified by DIN EN 60825-1:2015-07



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