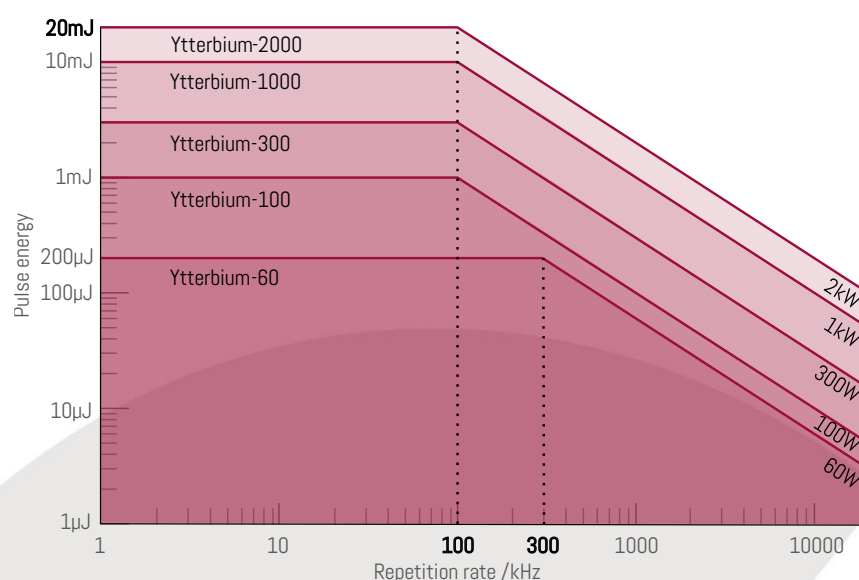




Customized kW and mJ ultrafast Ytterbium lasers

The quality of any laser application crucially depends on the performance of the driving light source, i.e. the laser itself. In addition, most applications ask for more and more average power from the laser source to be cost-effective or sensitive enough.

AFS's ultrafast fiber lasers are characterized by an outstanding performance combined with flexibility and maximum stability. All essential parameters are software controlled and can be tuned over a wide range, making them an extremely valuable tool in many applications.



Overview of available laser parameters



kW-class high-repetition-rate fiber laser

APPLICATIONS

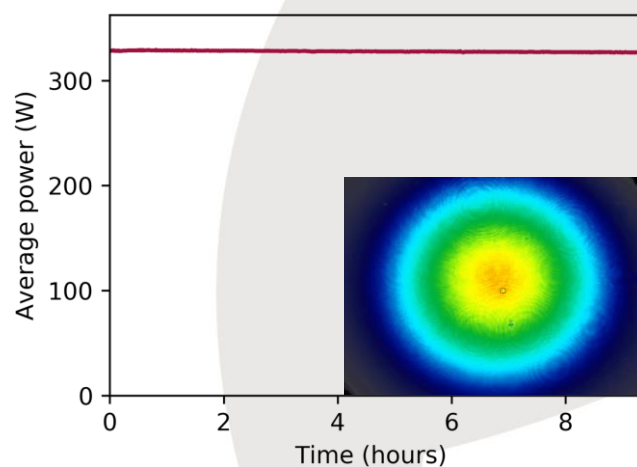
- Driver for photo-emission-spectroscopy setups
- Pumping of optical parametric amplifiers (OPA)
- Generation of high harmonics (HHG)
- Materials processing



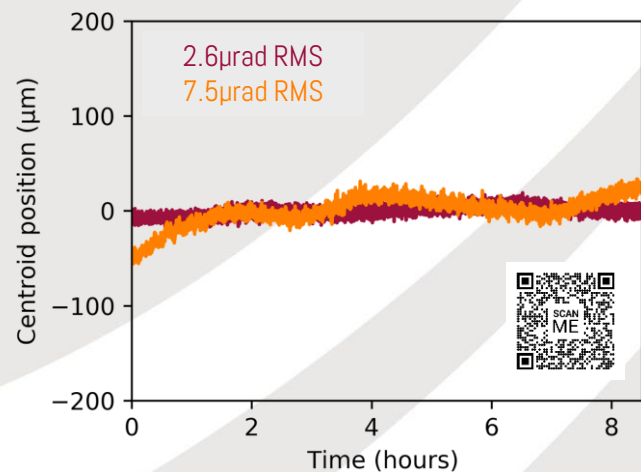
Customized kW and mJ ultrafast Ytterbium lasers

	Ytterbium-300	Ytterbium-2000
Central wavelength	approx. 1030 nm	
Repetition rate	50 kHz (or single pulse via Ext. AOM upgrade) up to 20 MHz, others on request	
Pulse energy	up to 3 mJ	up to 20 mJ
Peak power	up to 7 GW	up to 60 GW
Average power	up to 300 W	up to 2 kW
Pulse duration	< 300 fs ... 5 ps adjustable, others on request	
Polarization	linear	
Beam quality	close to diffraction-limited, M² < 1.25	
RIN slow (Average power)	< 0.6% RMS [1/ (24 hours) ... 1 Hz]	< 0.8% RMS [1/ (24 hours) ... 1 Hz]
RIN fast (Pulse energy)	< 0.6% RMS [1 Hz ... f _{rep} /2]	< 0.8% RMS [1 Hz ... f _{rep} /2]
Beam pointing	< 20 μrad RMS (< 10% nat. divergence)	
Dimensions laser (W × D × H)	98 cm × 202 cm × 32 cm	149 cm × 292 cm × 50 cm
Add-ons	OPA, SHG, THG, HHG, Few-cycle generation, CEP-stability, GHz-Burst, Fast-switch	
Logging	Logging of all operation parameters via control software, remote monitoring and service access	
Additional features	All parameters software controlled, temperature-stabilized and dust-sealed housing	

The specs above show only our main platforms. We happily customize a system exactly to your needs.



Typical characterization of power stability and beam quality for the Ytterbium-300 platform at 3mJ



Typical characterization of beam pointing for Ytterbium-300 platform at 3mJ