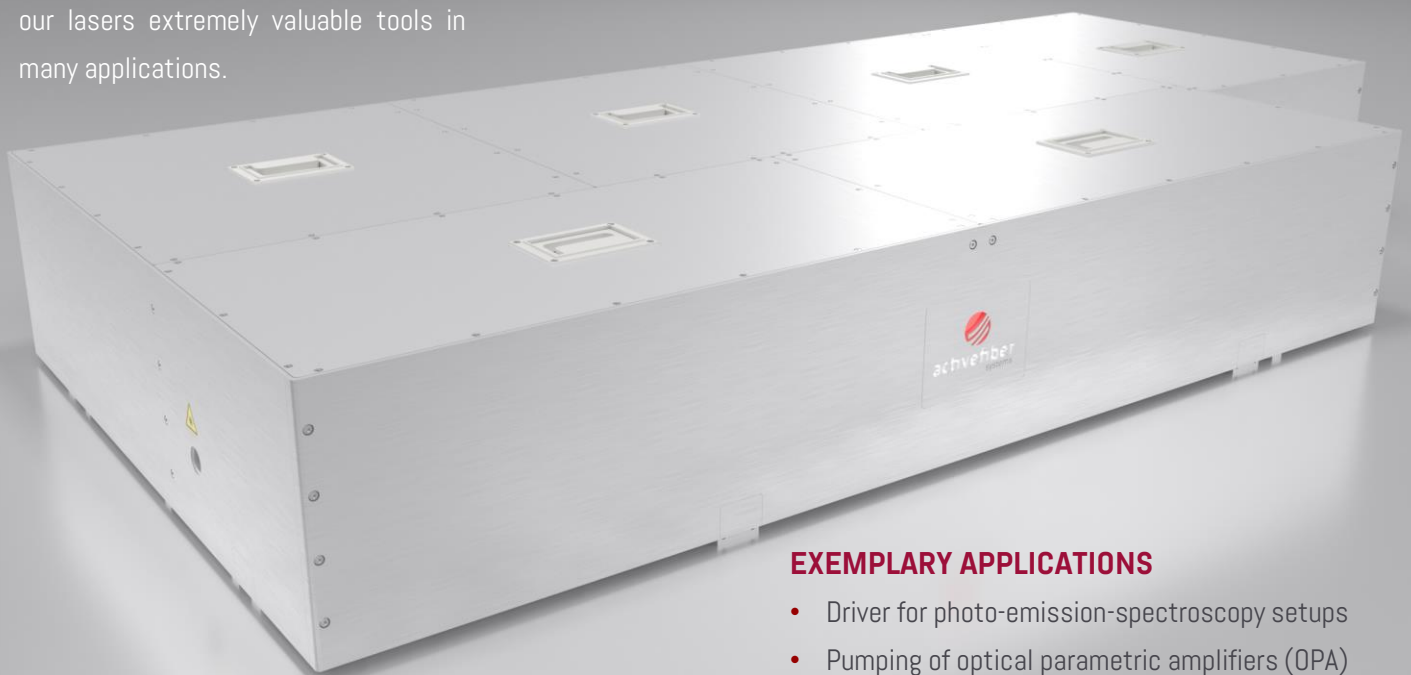
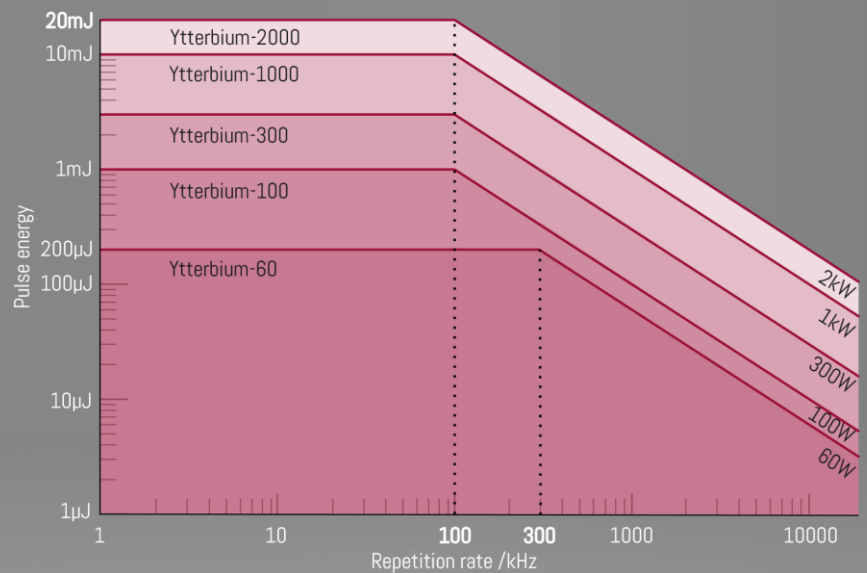


CUSTOMIZED kW AND mJ ULTRAFAST **YTTERBIUM** LASERS

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 require 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 our lasers extremely valuable tools in many applications.



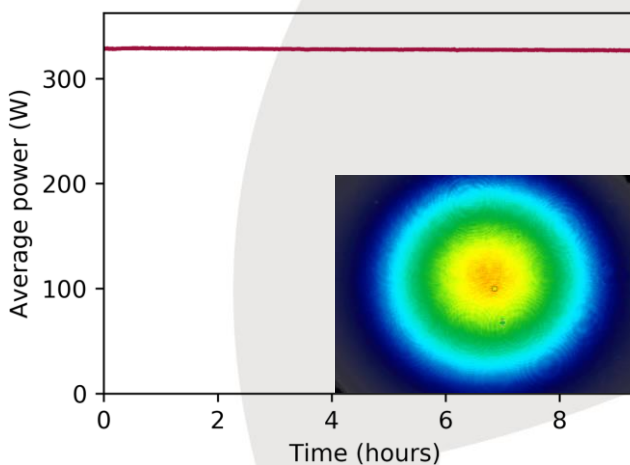
EXEMPLARY APPLICATIONS

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

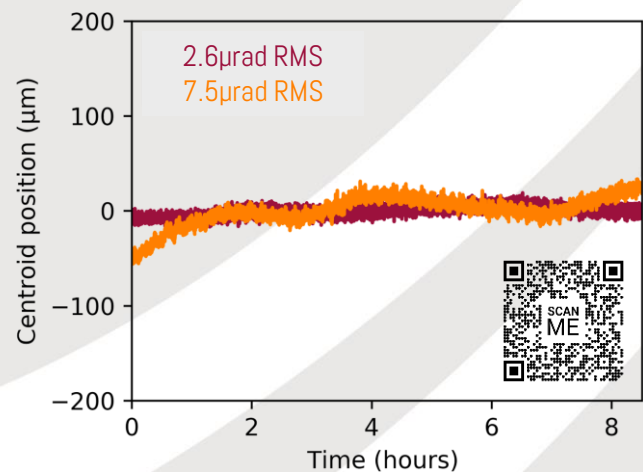
CUSTOMIZED kW AND mJ ULTRAFAST YTTERBIUM LASERS

	Ytterbium-300	Ytterbium-2000
Central wavelength	approx. 1030nm	
Repetition rate	50kHz (or single pulse via externally controllable AOM upgrade) up to 20MHz, others on request	
Pulse energy	up to 3mJ	up to 20mJ
Peak power	up to 12GW	up to 80GW
Average power	up to 300W	up to 2kW
Pulse duration	< 300fs ... 5ps adjustable, others on request	
Polarization	linear	
Beam quality	close to diffraction-limited, $M^2 < 1.25$	
RIN slow (average power)	< 0.6% RMS [1/ (8hours) ... 1Hz]	< 0.8% RMS [1/ (8hours) ... 1Hz]
RIN fast (pulse energy)	< 0.6% RMS [1Hz ... $f_{rep}/2$]	< 0.8% RMS [1Hz ... $f_{rep}/2$]
Beam pointing	< 20 μ rad RMS (< 10% nat. divergence)	
Dimensions laser (W x D x H)	up to 2mJ: 98cm x 202cm x 32cm up to 5mJ: 150cm x 202cm x 32cm	149cm x 292cm x 50cm
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 gladly customize a system that fits your specific 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