



**activefiber**  
systems

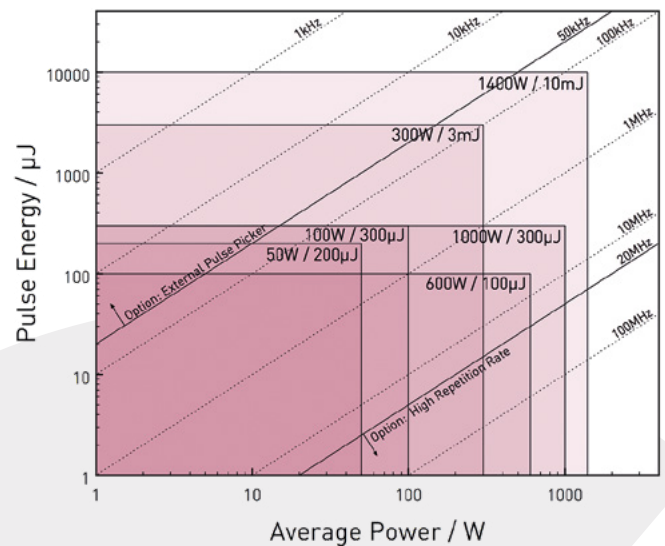
## COMPACT 100 W FEMTOSECOND LASER

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 to an extremely valuable tool in many applications.

### APPLICATIONS

- Materials processing
- Micro- and nano-machining
- Pumping of optical parametric amplifiers (OPA)
- Generation of high harmonics (HHG)



Overview of available laser parameters

### MORE INFORMATION

[www.afs-jena.de](http://www.afs-jena.de) | [contact@afs-jena.de](mailto:contact@afs-jena.de)



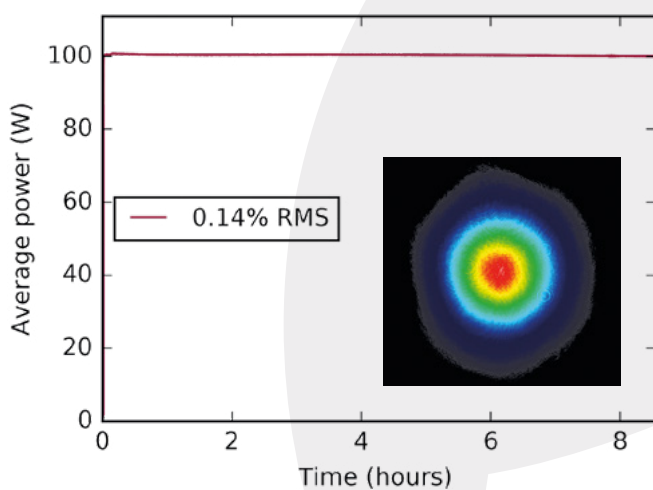
Compact 100W femtosecond laser



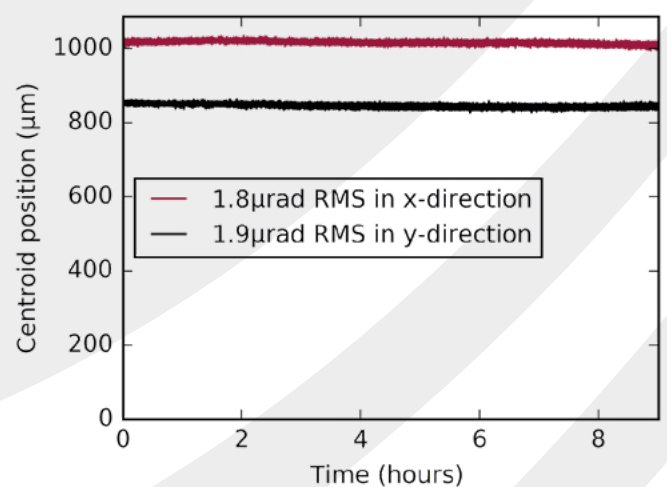
## COMPACT 100 W FEMTOSECOND LASER

Central wavelength	1030 nm
Repetition rate	50 kHz ... 20 MHz, others on request
Pulse energy	up to 300 $\mu$ J
Peak power	up to 1 GW
Average power	up to 100 W
Pulse duration	< 300 fs ... 10 ps adjustable
Polarization	linear
Beam quality	close to diffraction-limited, $M^2 < 1.3$
Average power stability	< 0.2% RMS
Pulse energy stability	< 0.5% RMS
Beam pointing	< 10 $\mu$ rad RMS (< 5% nat. divergence)
Beam diameter	approx. 3 mm
Dimensions laser (W x D x H)	112 x 41 x 20 cm <sup>3</sup>
Mass	approx. 80 kg
Options	OPA, SHG, THG, HHG, NC, BURST
Additional features	Turnkey reliability, all parameters software-controlled, temperature-stabilized and dust-sealed housing

### Performance overview



Characterization of power stability and beam quality



Characterization of beam pointing @ 100 W average power