YFOA. Femtosecond Yb-Doped Fiber Lasers

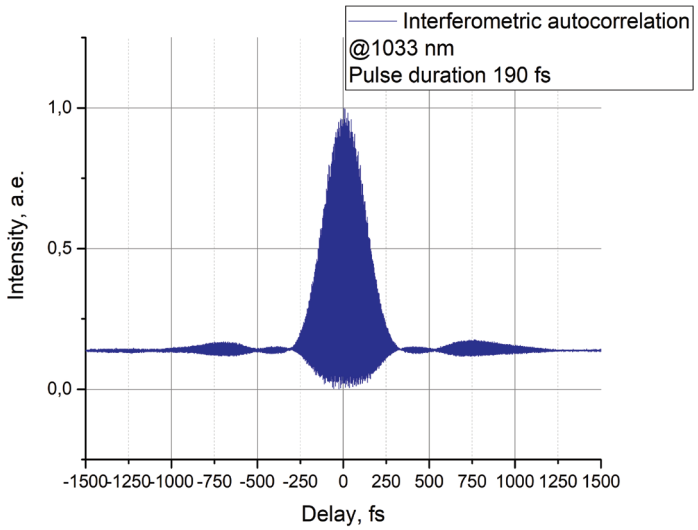
- Available wavelengths: 1030-1053 nm (fixed)
- Average power up to 20 W
- Pulse duration <200 fs
- 19" rack OEM versions
- YFOA-S seeder version with chirped fiber output
- Small footprint and turn-key operation

YFOA-200 Yb-doped fiber laser head

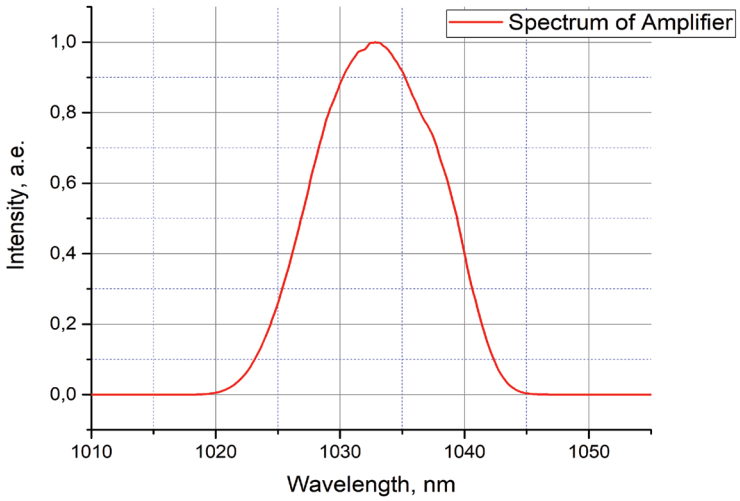
Product overview

The YFOA femtosecond fiber laser is designed for stable generation of an ultra-short laser pulse train. The device contains Yb-doped active fiber, pump diodes, polarization control and dispersion control elements, electronic power supply and control system. The laser also has an SMA sync output for triggering external devices, as well as another SMA for pulsed mode status. The YFOA has proven its reliability as a seed oscillator for amplifier systems (such as the TETA system), as well as a stand-alone pulse generator. The YFOA may be ramped up to higher average power ratings for power-demanding applications.

YFOA-200S 19" rack OEM seeder version with fiber output or YFOA series control unit



Autocorrelation function of YFOA-5000



Emission spectrum of YFOA-5000

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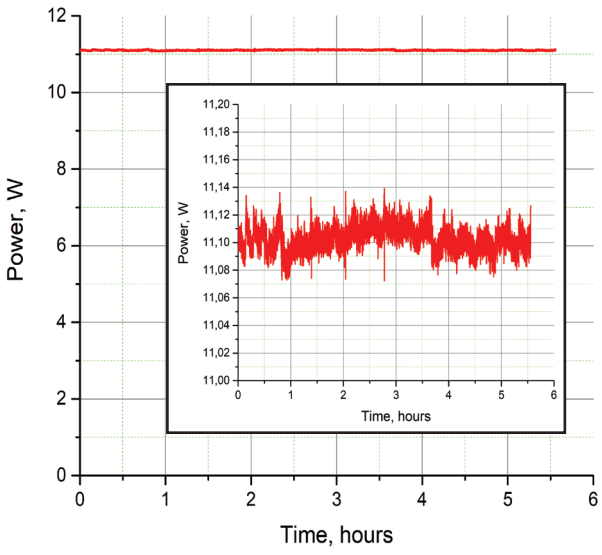
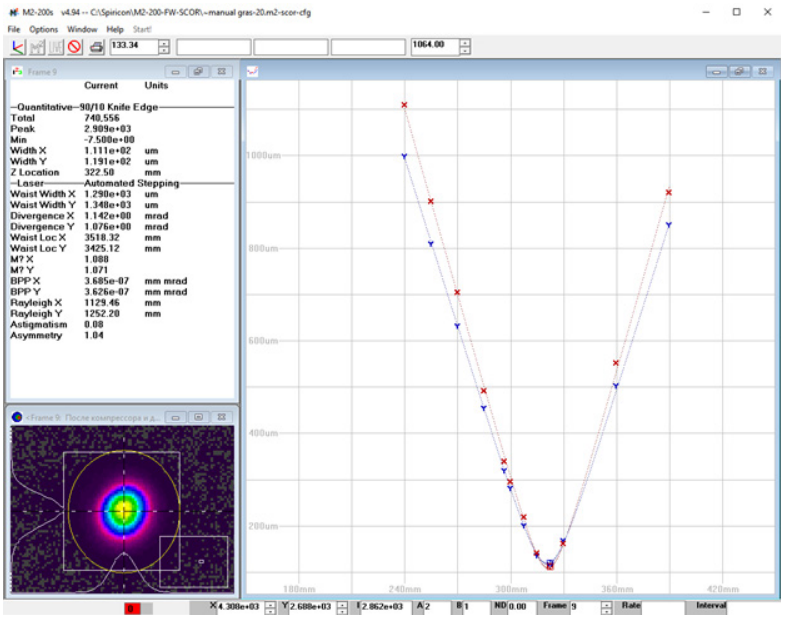
	YFOA-50*	YFOA-200*	YFOA-2000*	YFOA-5000	YFOA-10000	YFOA-20000
Pulse duration (FWHM)	<200* fs					<250 fs
Available wavelengths	1030±5 nm (fixed) (SHG, 1040 nm, 1053 nm upon request)					
Average output power	>50 mW	>200 mW	>2 W	>5 W	>10 W	>20 W
Pulse energy	>0.7 nJ	>2.8 nJ	>28 nJ	>70 nJ	>140 nJ	>285 nJ
Repetition rate (fixed)	70*±10 MHz (internal/external AOMs upon request)					
Spatial mode and M^2	TEM00; M^2 <1.2					
Polarization	linear, vertical (horizontal on request)					
Long-term power stability	<0.5% rms (8 hours at equal ambient conditions)					
Output type	collimated free-space* (multiple outputs upon request)					
Cooling type	air-cooled (water-cooled on request)					
Sync and indication	SMA electric and FC/APC optical sync outputs; TFT color display					
Control interface	USB with PC software; optional: CAN, RS485					
Operating conditions	15-35 °C; humidity level non-condensing					
Optical unit, mm	110x200x70	110x200x70	276x145x90	276x145x90	276x145x90	341x172x115
Control and Power supply unit, mm	483x320x95 (19" 2U)	483x320x95 (19" 2U)	483x320x95 (19" 2U)	483x320x95 (19" 2U)	483x320x140 (19" 3U)	483x320x140 (19" 3U)

** - the YFOA-S series 40-MHz seed oscillator versions for seeding solid-state or fiber amplifiers is available upon request with up to 300 ps chirped pulse output via fiber-coupled or collimated free-space output; custom stretcher design and AOM selection are also available;*



Long-term stability of YFOA-10000 on different scales



M^2 measurements of YFOA-2000 (M^2 <1.08)

Possible application of the YFOA fiber lasers:

- Seed oscillator
- THz radiation generation
- MPE microscopy
- Metrology
- «Pump-probe» spectroscopy
- Semiconductor device testing
- Supercontinuum generation
- Optical coherent tomography

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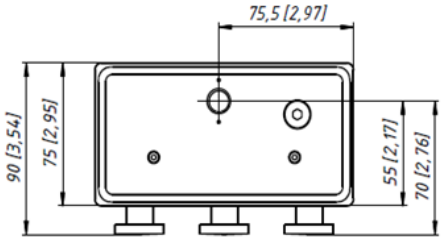
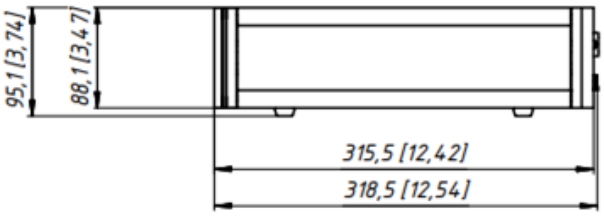
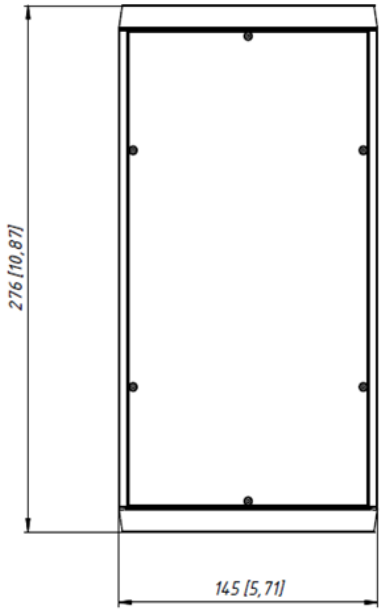
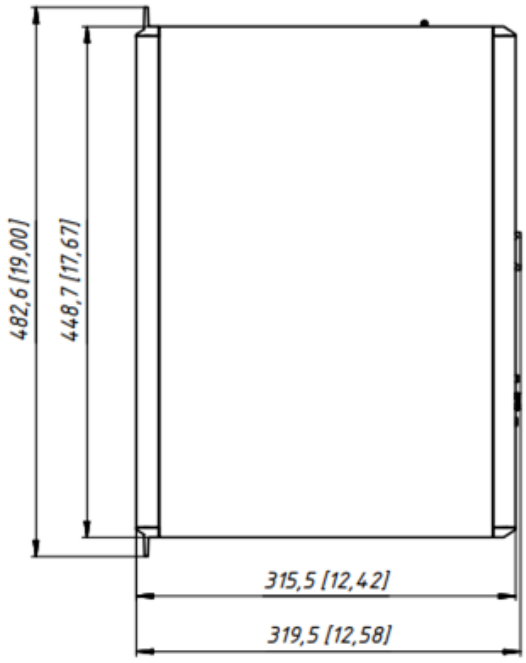


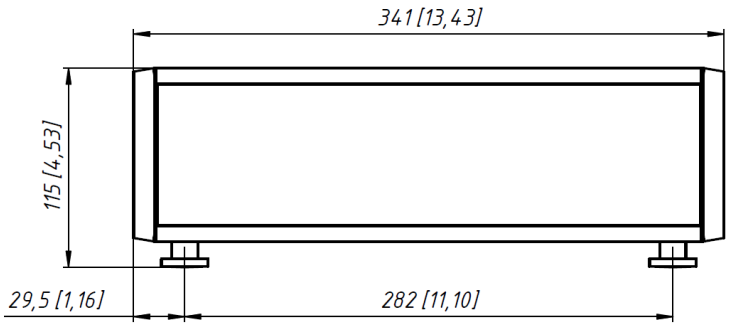


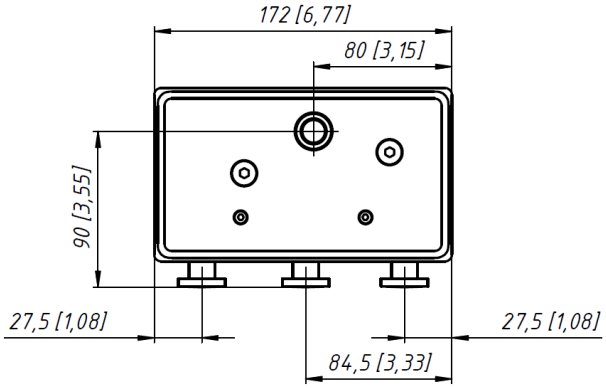


Optical unit of YFOA-2000/5000/10000

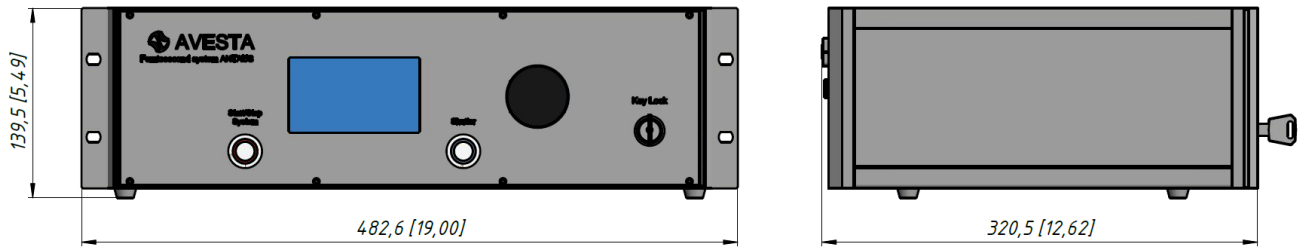


Control unit of YFOA-50/200/2000/5000





Optical unit of YFOA-20000



Countrol and Power supply unit of YFOA-10000/20000

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