COMPACT FEMTOSECOND LASERS
FX series

The family of the FX series lasers is completely solid-state femtosecond lasers with high average power, exceptional pulse energy and excellent stability.

Yb-doped crystals used in these lasers allow being pumped directly by a diode eliminating the necessity in an intermediary pump laser used in traditional Ti:Sapphire lasers. For this reason the FX series lasers to the full extent combine compactness and reliability of fiber systems with advantages of solid-state technologies.

The FX series lasers have been developed specially for long-term and stable operation with minimum of service. The lasers are built on the turn-key principle and can be operated by a user not experienced in working with laser equipment.

Unpretentiousness of the FX series lasers is conditioned by the rigid dustproof design with thermal stabilisation of all the critical cavity components. Supplement these features with service intervals of more than 10 000 hours and obtain a device which will be duly appreciated by industrial users.

Excellent beam quality will satisfy the most demanding requirements of scientists performing fine experiments. Thanks to the SESAM® technology you will daily save your time due to self-start of the femtosecond mode immediately after switching on the laser and will be sure in the precision of your experiments thanks to ideal long-term stability of the laser output parameters.

If you need to use the laser you already have in your laboratory for applications requiring VIS or UV femtosecond radiation, it can be supplemented with the SHG (518nm), THG (345nm) or FHG (259nm).

FEATURES

- **Air cooled**
- **Completely solid-state**
- **Compact dustproof design**
- **≤ 200 fs pulse duration (120 fs is available)**
- **Excellent stability**
- **VIS and UV options**
- **Turn-key operation**

APPLICATIONS

- Femtosecond spectroscopy
- Nonlinear spectroscopy
- Nonlinear optics
- High harmonics generation
- Terahertz generation and detection
- Multiphoton microscopy

SPECIFICATIONS *

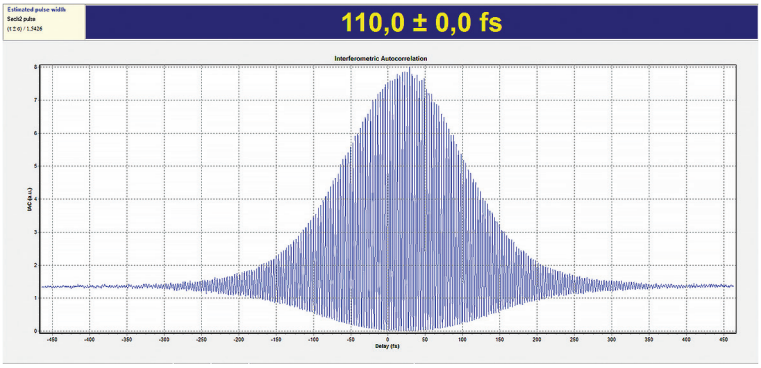
Model	FX100	FX150	FX200
Wavelength [2], nm	1040 ± 5	1030 ± 5	1030 ± 5
Average output power [2], W	≥ 1	≥ 6	≥ 8
Pulse energy, nJ [2]	≥ 10	≥ 70	≥ 100
Pulse repetition rate [3], MHz	70 ± 5		
Pulsewidth [4], fs	≤ 150	≤ 150	≤ 200
Spectrum width (FWHM), nm	≥ 8	≥ 8	≥ 7
Beam quality	TEM_{00}; $M^2 \leq 1.5$		
Power stability, %	±1		
Cooling	air	water-air	water-air
Electrical service	100…240 V, 50/60 Hz, ≤ 600 W		
Dimensions, mm:			
Laser Head (LxWxH)	670 x 220 x 155	400 x 290 x 120	
Power Supply (HxWxD)	240 x 240 x 110	410 x 420 x 170	

* Specifications are subject to change without notice.
1) External harmonic generators are available.
2) Requested average power and pulsewidth are to be specified while PO placed.

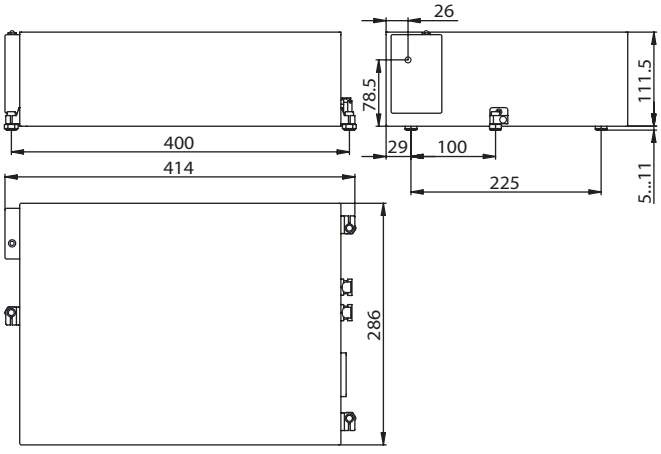
OPTIONS

- External harmonic generators
- External Attenuator
- Frequency divider

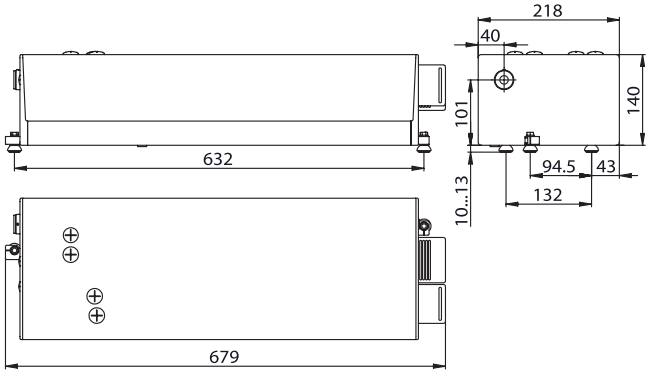
The FX series lasers can be supplemented with the VIS / UV harmonic generator unit.



The FX150 laser typical autocorrelation curve.



The FX150 and FX200 laser head outline drawing.



The FX100 laser head outline drawing.