Integrated Fiber Optics

# FEMTOSECOND FIBER LASERS FOR BIOPHOTONICS

**All our femtosecond lasers are based on ground-breaking Mamyshev generator [1-2] technology protected by World class patent* which brings *telecom grade* performance to scientific ultrashort pulse lasers.**


**The key advantage of this technology is zero consumable parts and exceptional robustness to the environmental disturbances, like vibration and temperature changes. Other advantages include:**

- **Temporally and spectrally clean pulses**
- **Highly customizable output parameters**
- **Fast and cost effective assembly**

***Patent is protected in Japan, USA, China, Korea, EU.**

**1. K. Regelskis et al. "Ytterbium-doped fiber ultrashort pulse generator based on self-phase modulation and alternating spectral filtering." Optics Letters 40, 5255 (2015).**
**2. F. W. Wise et al. "Megawatt peak power from a Mamyshev oscillator." Optica 4, 649 (2017).**

## SPECIFICATIONS

| | Model | |
|---|---|---|
| | FSP-1 | FSP-3 |
| Central wavelength | 1050 nm | 1045 nm |
| Pulse duration | <100 fs (70 fs typ.) | |
| Dispersion compensation | ±10'000 fs² | |
| Typical spectral bandwidth (FWHM) | 35 nm | |
| Pulse repetition rate | 15 MHz | |
| Integrated pulse picker [2)] | optional | |
| Average power | >0.5 W | >2 W |
| Max pulse energy | >50 nJ | >200 nJ |
| Peak power | 0.5 MW | 2 MW |
| Beam quality | $M^2$ <1.2 | |
| Operating conditions | 15-35 ℃, humidity - not condensing | |

**FSP-1 and FSP-3 are a compact *telecom grade* femtosecond lasers designed for *multiphoton microscopy*. These models with a footprint of A4 paper sheet generate pulses with peak power unmatched in the market. In combination with very short pulse duration this provides exceptional productivity for multiphoton microscopy.**