



FSX-SERIES FEMTOSECOND LASER

MULTI-WAVELENGTH TURN-KEY & 24/7 OPERATION – EXTENDED POSSIBILITIES

The FSX-series is a flexible, turn-key and compact femtosecond laser system perfectly matched for multi-photon imaging and other biophotonic applications. The air-cooled laser is engineered for sustained 24/7 operation. Temperature fluctuations between 18 °C and 28 °C have no influence on the performance, mitigating concerns about misalignment over time and operating environment.

The multi-wavelength options and high-quality engineering maximize your imaging freedom and flexibility, therefore the FSX laser is well-suited for a broad range of applications, e.g.:

- Quantum optics
- CARS/SRS
- Spectroscopy
- Amplifier seeding
- Neuroscience
- FLIM
- 2P / SHG / THG microscopy
- 2P polymerization
- Supercontinuum generation
- Terahertz generation

	FSX-1040	FSX-Dual	FSX-Tune*
First wavelength: 1040 nm	✓	✓	✓
Second wavelength: 750 - 1300 nm (fixed in range)	✗	✓	✗
Second wavelength: 750 - 1300 nm (tunable in range)	✗	✗	✓

The modular concept of the FSX-series offers three models. The FSX-1040 offers one fixed wavelength at 1040 nm. For multi-wavelength applications demanding perfectly synchronized femtosecond pulses we offer two solutions:

The FSX-Dual with two fixed wavelengths, one at 1040 nm and the other factory-set between 750 and 1300 nm. And the FSX-Tune with a fixed wavelength at 1040 nm and a tunable in the range of 750 to 1300 nm, engineered with excellence for expanded imaging capabilities.

* Available in Q1/2022.

SPECIFICATIONS

	FSX-1040	FSX-Dual	FSX-Tune*
Single-wavelength:	1040 nm	✓	✓
Second wavelength:	750 - 1300 nm (fixed in range)	X	X
Second wavelength:	750 - 1300 nm (tunable in range)	X	✓
Pulse duration	< 130 fs		
Average output power per wavelength	>8 W	>1 W @ 1040 nm >400 mW @ 2 nd λ	>1 W @ 1040 nm >400 mW over range
Pulse energy	>100 nJ	>12,5 nJ @ 1 st λ >5 nJ @ 2 nd λ	>12,5 nJ @ 1 st λ >5 nJ @ 2 nd λ
Pulse repetition rate**	80 MHz		
Beam quality	M ² < 1.1, TEM ₀₀		
PER	>23 dB		
Pointing stability	30 μrad rms (12 h) const. temperature, <5 μrad / °C 18 - 28°C		
Laser output	Collimated free space		

Environmental	
Warm-up time	<10 min
Operation temperature	18 °C - 28 °C
Storage temperature	-10 °C - 65 °C

Electrical	
Power supply	90 – 264 VAC, 47 – 63 Hz
Power consumption	<500 W

Cooling	
Laser system	Air cooled

Mechanical	
Size laser head	280 x 398 x 156 mm ³
Weight laser head	10 kg
Size laser controller	280 x 420 x 156 mm ³
Weight laser controller	10 kg

Options / Warranty	
Built in AOM for power control and galvo flyback blanking.	
Dispersion pre-compensation.	
Warranty up to 5 years in total.	
Water cooling.	

* Available in Q1/2022.
** Other repetition rates on request.

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