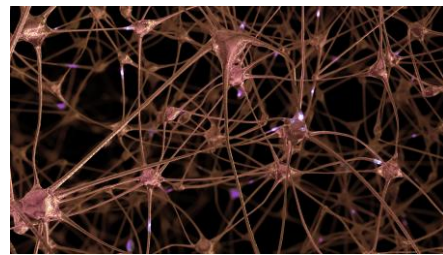


Two-photon microscopy



Neuroscience



COMPACT VARIABLE FREQUENCY FEMTOSECOND LASER

920 nm, variable repetition rate, high energy

DIADEM 920 is a compact fiber laser designed to offer wide variability for advanced experiments involving two-photon excitation.

DIADEM 920 offers software-controlled variable repetition rates which can be changed on the fly from 0 to 40 MHz. Users can therefore optimize repetition rate in their demanding applications. With high energy and short pulse duration, DIADEM 920 offers remarkable peak power which allows multi-plane or multi-spot two-photon excitation. DIADEM 920 incorporates an AOM-based modulator to change power or modulate intensity with a modulation bandwidth exceeding 1 MHz. In addition, computer controlled GDD precompensation ensures optimal brightness is achieved under all conditions. With these outstanding characteristics, DIADEM 920 can compete directly with bulky and expensive lasers based on OPCPA.

TECHNICAL SPECIFICATIONS*

General	DIADEM 920
Wavelength	920 nm
Maximum average power	4 W
Pulse duration	< 300 fs
Repetition rate	0 to 40 MHz
Energy per pulse	1 μ J up to 4 MHz (500 nJ at 8 MHz, 400 nJ at 10 MHz...)
GDD precompensation	Computer controlled from 0 to -300 000 fs ²
Beam parameters	
M ²	< 1.3
Ellipticity	> 0.85
Output beam	Collimated
Polarization	> 100:1, vertical
Stability	
Power stability RMS	< 1%
Pulse to pulse stability RMS	< 1%
Pointing stability	< +/- 25 μ rad/°C
Electrical	
External interfaces	RS-232, USB, TCP/IP
Synchronized input	Sync in for pulse-on-demand
Synchronization output	TTL
Pulse power control	Analog modulation + fast gating (> 1MHz Bandwidth) + software controlled energy
Software interfaces	GUI, RS-232 serial communication protocol
Power consumption	< 250 W
Cooling	Air
Mechanical	
Control unit	19"/ 3U rack
Control unit weight	13 kg
Umbilic length	3 m
Environmental	
Operational temp range	20-26°C
Storage temp range	0-40°C
Operational max altitude	2000 m
Operational humidity	non condensing
Storage humidity	80% RH

* This information is subject to modifications without prior notice.

