



Origami XP

High energy single-box femtosecond laser module

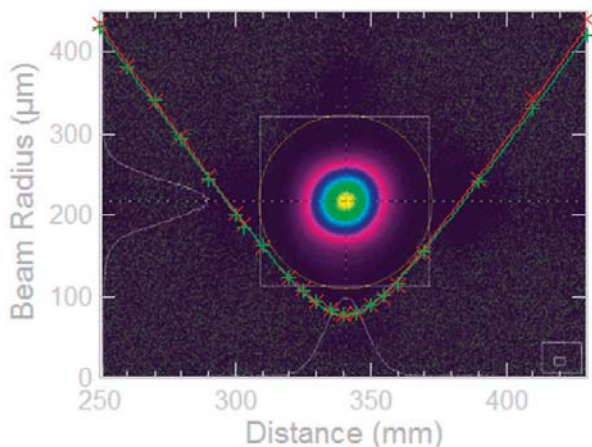
Swiss
Made

NEW FEATURE



The first all-in-one air-cooled microjoule femtosecond laser

The **Origami-XP** is the first all-in-one, single-box, microjoule femtosecond laser available on the market. The laser head, controller and air-cooling system are integrated in one box. Being as small as 280 x 498 x 155 mm it even fits into a hand-luggage. The **Origami-XP** is based on the unique low noise ultra-stable Origami femtosecond seed laser. A simple and compact chirped pulse amplification system is capable of > 40 μ J pulse energy, 4 W average power and pulse duration below 400 fs. The laser platform offers remote control capability. The **Origami-XP** has been designed for the easiest and most cost-effective possible system integration. It comes with removable handles, offers simple through-hole mounting and contains precise mechanical reference planes for simple drop in applications.



Far-field beam profile of the Origami-10XP

Laser outstanding features:

- Compact, single-box, dust sealed OEM package
- Mountable in any direction
- Real-time pulse energy measurement and control
- Burst mode
- Excellent pulse quality
- Outstanding energy and pointing stability
- Maintenance free – no alignment required
- Complete remote control
- 24/7 operation

Options:

- Green 515 nm
- UVA 343 nm
- Water cooling
- Synchronization to external clock
- Picosecond operation
- Circular polarization

Main applications:

- High precision laser surgery
- Micromachining
- Plasma generation
- Nonlinear optics
- LIBS
- THz generation

Origami XP



Laser specifications	Origami -03 XP	Origami -05 XP	Origami -10 XP
Center wavelength	343 nm	515 nm	1030 nm
Pulse Duration	<400 fs	<400 fs	<400 fs
Avg. output power (up to)	1 W	2 W	4 W
Pulse energy (up to)	10 μ J	20 μ J	40 μ J
Peak power (up to)	13 MW	35 MW	100 MW
Pulse repetition rate	single shot – 1 MHz		
Spectral bandwidth	< 1.8 nm	< 2.5 nm	< 4 nm
Beam quality	$M^2 < 1.4$, TEM ₀₀	$M^2 < 1.2$, TEM ₀₀	$M^2 < 1.2$, TEM ₀₀
Ellipticity	< 1.3	< 1.1	< 1.1
Amplitude noise (12 h)	< 4.0% rms	< 2.0% rms	< 1.0% rms
PER	> 20 dB horizontal		
Energy contrast	23 dB		
Pointing stability	< 50 μ rad rms (12 h)		
Laser output	collimated free space		
Environmental			
Warm-up time	< 10 minutes		
Operation temperature	18°C – 32°C		
Storage temperature	-12°C – 65°C		
On/Off cycles	> 10000		
Mechanical			
Size laser system	280 x 498 x 156 mm ³		
Weight laser system	30 kg		
Electrical			
Power supply	24V / 10A DC or 90 – 264 VAC, 47 – 63 Hz		
Power consumption	< 250 W		
Cooling			
Laser system	air cooled or water cooled		

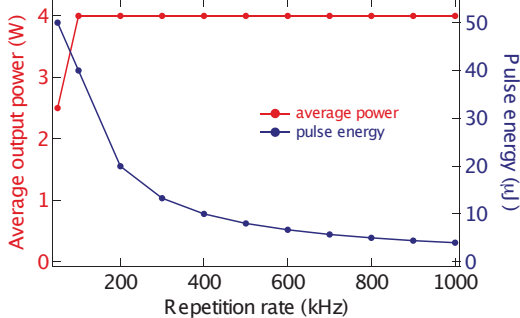


IEC 60068-2-6: 2007
IEC 60068-2-27: 2008
IEC 60068-2-29: 1993
Vibration & Shock
Proved Product

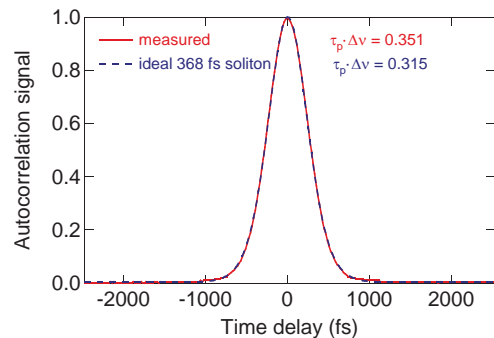
ISO 9001: 2008
ISO 13485: 2003
certified
QMS



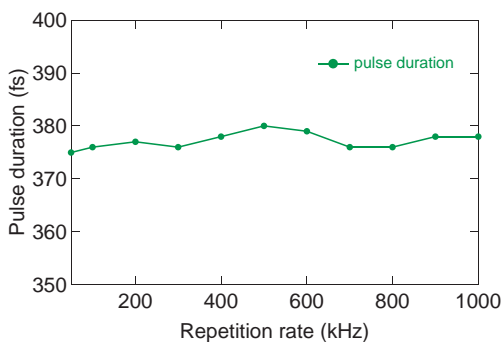
Output power vs Repetition Rate



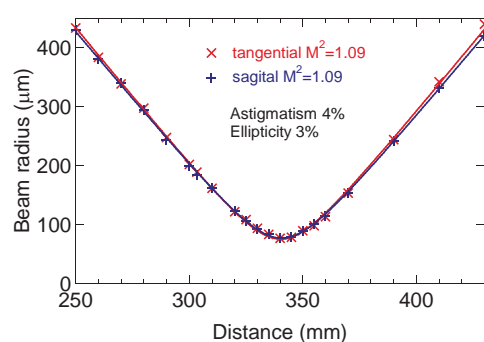
Pulse profile



Pulse duration vs Repetition Rate



Beam quality



Specifications subject to change without notice, June 2015