



# Origami XP

## High energy single-box femtosecond laser module

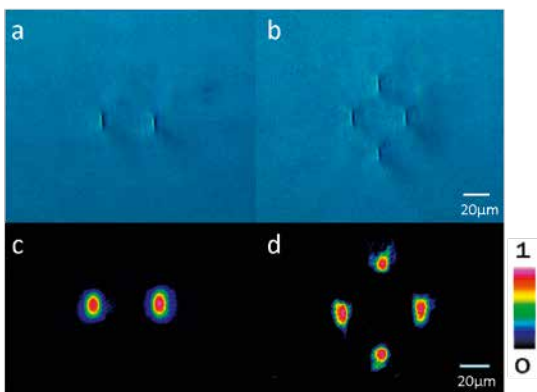
Swiss  
Made

**NEW FEATURE**



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

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 280x498x155 mm it even fits into a hand-luggage. 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 >50  $\mu\text{J}$  pulse energy, 5 W average power and pulse duration below 400 fs. The laser platform offers remote control capability. 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.



Waveguide writing realized with the Origami XP.  
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### Laser outstanding features:

- Air-cooled, 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
- UVC 258 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	<b>343 nm</b>	<b>515 nm</b>	<b>1030 nm</b>
Pulse Duration	<400 fs	<400 fs	<400 fs
Avg. output power (up to)	1 W	2 W	5 W
Pulse energy (up to)	10 $\mu$ J	20 $\mu$ J	60 $\mu$ 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 <sub>00</sub>	$M^2 < 1.2$ , TEM <sub>00</sub>	$M^2 < 1.2$ , TEM <sub>00</sub>
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 $\mu$ rad rms (12 h)		
Laser output	collimated free space		
<b>Environmental</b>			
Warm-up time	< 10 minutes		
Operation temperature	18°C – 32°C		
Storage temperature	-12°C – 65°C		
On/Off cycles	> 10000		
<b>Mechanical</b>			
Size laser system	280 x 498 x 156 mm <sup>3</sup>		
Weight laser system	30 kg		
<b>Electrical</b>			
Power supply	24V / 10A DC or 90 – 264 VAC, 47 – 63 Hz		
Power consumption	< 250 W		
<b>Cooling</b>			
Laser system	air cooled or water cooled		

**RoHS compliant**

**CE**

**CLASS 4 LASER**

**IEC Compliant Product**

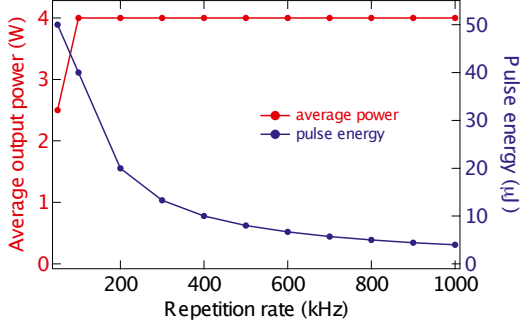
- IEC 60068-2-27:2008
- IEC 60068-2-6:2007
- Shock & Vibration Test
- IEC 61010-1:2010
- IEC 61326-1:2012
- Electromagnetic Compatibility
- IEC 60825-1:2014
- Laser Radiation Safety

**ISO Certified Company**

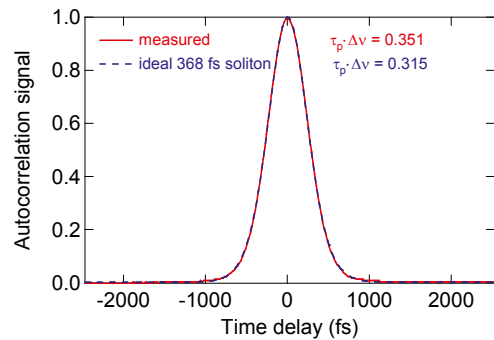
- ISO 9001 : 2008
- ISO 13485 : 2012



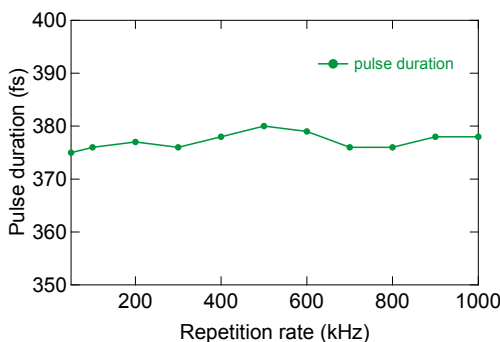
Output power vs Repetition Rate



Pulse profile



Pulse duration vs Repetition Rate



Beam quality

