



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 all integrated in one small and robust package ready for fast integration. Its footprint is so small (280 x 498 x 155 mm) that it even fits into a hand-luggage. The system is based on a simple and compact chirped pulse amplification system capable of delivering > **40 μJ** pulse energy, **4 W** average power with pulse duration below **400 fs**. The laser platform offers excellent pointing stability in time as well as against ambient temperature fluctuations. Origami XP has been designed for easy and cost-effective integration. It is delivered with removable handles and offers full remote control capabilities. A simple through-hole mounting system and high precision mechanical referencing planes ensure straightforward drop-in installation.

OPTIONS:

- + Up to 60 μJ pulse energy
- + Up to 5 W output power
- + UVC 258 nm
- + Synchronization to external clock
- + Picosecond operation
- + Circular polarization
- + Water cooling

MAIN APPLICATIONS:

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

OUTSTANDING FEATURES :

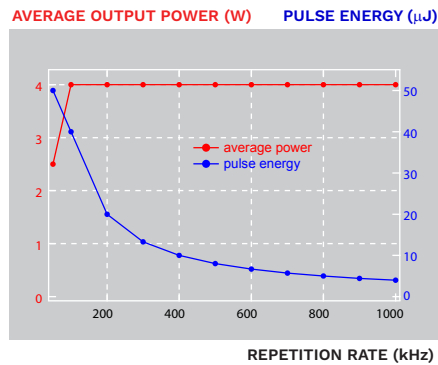
- + Air-cooled, single-box, dust sealed OEM package
- + Mountable in any direction
- + Real-time pulse energy measurement and control
- + Burst mode
- + Excellent pulse quality
- + Outstanding energy and pointing stability
- + Maintenance free – no alignment required
- + Complete remote control
- + 24/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



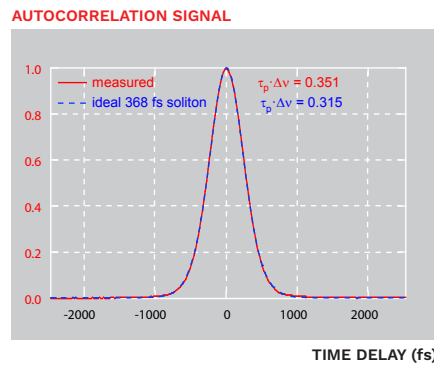
	ORIGAMI - 03 XP	ORIGAMI - 05 XP	ORIGAMI -10 XP
CENTER WAVELENGTH	343 nm	512 nm	1030 nm
PULSE DURATION	<400 fs	<400 fs	<400 fs
AVG. OUTPUT POWER [UP TO]	1 W	2 W	4 W
PULSE ENERGY [UP TO]	10 μJ	20 μJ	40 μJ
PEAK POWER [UP TO]	13 MW	35 MW	100 MW
PULSE REPETITION RATE		single shot – 1 MHz	
SPECTRAL BANDWIDTH	< 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		> 23 dB vertical	
ENERGY CONTRAST		23 dB	
POINTING STABILITY	< 30 μrad rms (12 h) const. temp., < 5 μrad/ °C 18-35°C		
LASER OUTPUT	collimated free space		
ENVIRONMENTAL			
WARM-UP TIME	< 10 minutes		
OPERATION TEMPERATURE	18 °C – 32 °C		
STORAGE TEMPERATURE	- 20 °C – 65 °C		
ON/OFF CYCLES	> 10000		
MECHANICAL			
SIZE LASER SYSTEM	280 x 498 x 156 mm ³		
WEIGHT LASER SYSTEM	32 kg		
ELECTRICAL			
POWER SUPPLY	24 VDC / 20 A or 90 – 264 VAC, 47 – 63 Hz		
POWER CONSUMPTION	< 500 W		
COOLING			
LASER SYSTEM	air cooled or water cooled		



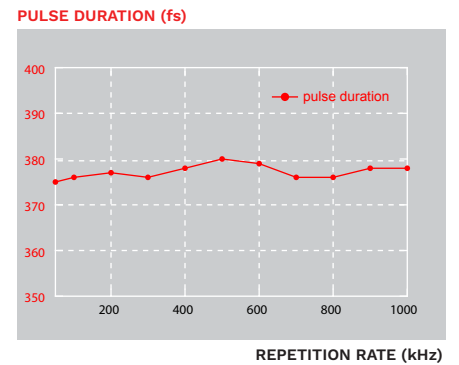
OUTPUT POWER VS REPETITION RATE



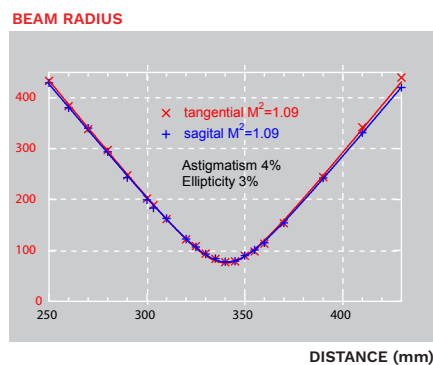
PULSE PROFILE



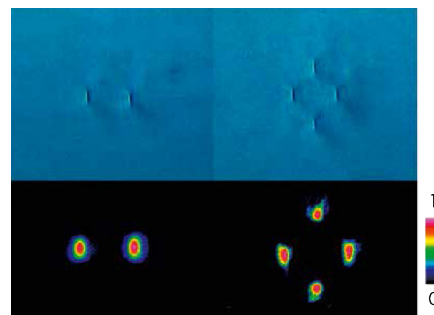
PULSE DURATION VS REPETITION RATE



BEAM QUALITY



APPLICATION



DIRECT LASER INSCRIPTION IN BULK ACRYLIC GLASS USING **ORIGAMI – 10 XP**.
© W. – H. Yuan et al., Optical Materials 49, 110-115, 2015

- IEC COMPLIANT PRODUCT
- SHOCK & VIBRATION TEST
 - IEC 60068-2-27: 2008
 - IEC 60068-2-6: 2007
- ELECTROMAGNETIC COMPATIBILITY
 - IEC 61010-1: 2010
 - IEC 61326-1: 2012
- LASER RADIATION SAFETY
 - IEC 60825-1: 2014