

Onefive ORIGAMI XP

High energy single-box femtosecond laser

- Air-cooled, single-box, sealed package
- Mountable in any direction
- Real-time pulse energy measurement and control
- Outstanding energy and pointing stability
- Maintenance free—no alignment required
- Complete remote control
- 24/7 operation



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 μ J 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.

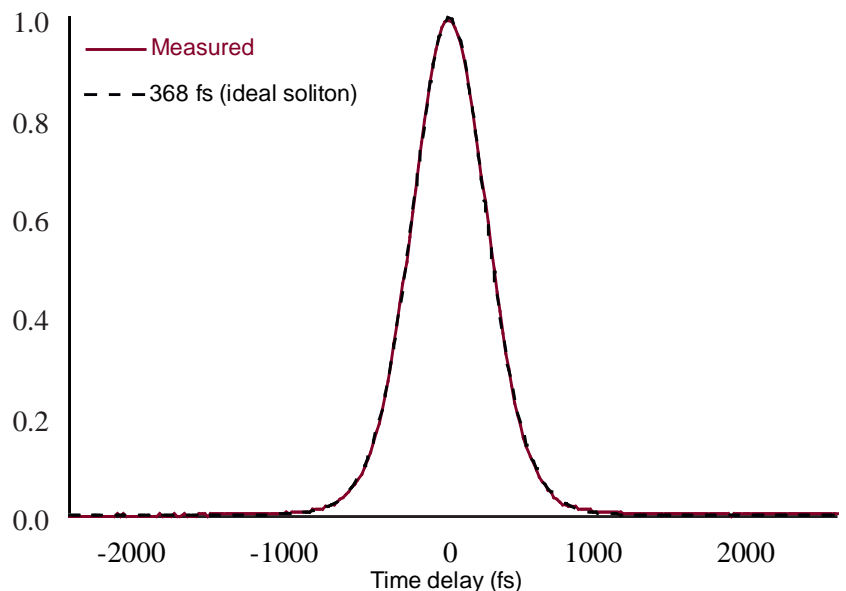
Origami XP has been designed for easy and cost-effective integration. It is delivered with removable handles and offers full remote control capabilities. A simple through-hole mounting system and high precision mechanical referencing planes ensure straightforward drop-in installation.

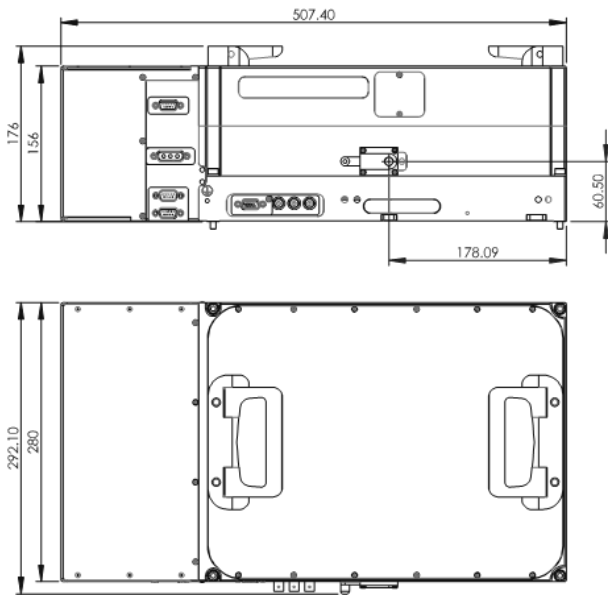
Applications

- Femtosecond micromachining
- Glass cutting and drilling
- Wafer scribing
- Medical device fabrication
- Thin film ablation
- Material processing
- Ceramic and polymer processing
- Ophthalmology



Pulse profile—Autocorrelation signal





Specifications

Optical

Model	ORIGAMI 05XP	ORIGAMI 10XP
Center wavelength	515 nm	1030 nm
Pulse duration	< 400 fs	< 400 fs
Average output power	2 W	4 W
Pulse energy	20 μ J	40 μ J
Peak power	35 MW	100 MW
Pulse repetition rate	Single shot—1 MHz	
Spectral bandwidth	< 2.5 nm	< 4 nm
Beam quality	$M^2 \leq 1.2$, TEM ₀₀	
Ellipticity	< 1.1	
Amplitude noise	< 2 % rms	< 1 % rms
PER	> 23 dB vertical	
Energy contrast	23 dB	
Pointing stability	< 30 μ rad rms (12 h) const. Temp., < 5 μ rad / °C 18-35 °C	
Laser output	Collimated free space	

Mechanical/Electrical

Warm-up time	10 minutes
Operation temperature	18 °C — 32 °C
Storage temperature	- 20 °C - 65 C
On/off cycles	> 10000
Dimensions	280x498x156 mm ³
Weight	32 kg
Power supply	24 VDC / 20 A or 90—264 VAC, 47—63 Hz
Power consumption	< 500 W
Cooling	Air cooled or water cooled

Support and Warranty

ORIGAMI XP support/warranty

All ORIGAMI XP products comes with industry leading reliability and are backed by our standard 2 year warranty. However, should you need the extra security of an extended warranty and remote diagnostics support this is available in our support and warranty extension package. Please contact your sales representative for more information.

NKT Photonics A/S (Headquarters)
 Blokken 84, 3460 Birkerød, Denmark
 Phone: +45 4348 3900
 Fax: +45 4348 3901

See www.nktphotonics.com for global offices and distributors

All NKT Photonics products are produced under our quality management system certified in accordance with the ISO 9001:2008 standard.

