

COMING SOON

Reliability redefined

>30 W at 1030 nm
< 350 fs
Single shot to 5 MHz

Zero maintenance

New 30 W
DRY cooled
femtosecond laser
for flat panel display
and microelectronics
fabrication

FemtoLux 30



 **EKSPLA**

Advanced Laser Technology

FemtoLux 30

SPECIFICATIONS

- ▶ **>30 W** at 1030 nm
- ▶ **>250 μ J** in a burst mode
- ▶ **<350 fs** – 1 ps
- ▶ **Single shot to 5 MHz** (AOM controlled)
- ▶ **<0.5% RMS power long term stability over 100 hours**
- ▶ **<1% RMS pulse energy stability**
- ▶ **$M^2 < 1.2$** (typical < 1.1)

INNOVATIVE COOLING SYSTEM

FemtoLux 30 laser employs an innovative cooling system and sets new reliability standards among industrial femtosecond lasers. Other lasers of similar optical power use water for cooling, which means an additional bulky and heavy water chiller is needed. The chiller requires periodical maintenance – cooling system draining and rinsing and water and particle filter replacement. Moreover, in the unfortunate event of water leakage, not only the laser head but also more expensive equipment could be damaged. Instead of using water for transferring heat from a laser head, the FemtoLux 30 uses an innovative Direct Refrigerant Cooling method. This means that no water is being used for cooling. Direct Refrigerant Cooling provides the highest heat transfer rates, high temperature stability, small size and low weight. A refrigerant agent, after a compressor, is being delivered to the cooling plate using flexible armored hoses. The entire refrigerant circulation system is completely sealed. The cooling plate is detachable from the laser head to make laser installation more convenient inside any laser processing equipment. Unlike water – cooled systems, a Direct Refrigerant Cooling system does not require any periodic maintenance. The laser cooling equipment is integrated with the laser power supply unit into a single 4U rack-mounted housing with a total weight of just 15 kg.

PERFECT AND VERSATILE TOOL FOR MICROMACHINING

The FemtoLux 30 femtosecond laser has a tunable pulse duration from <350 fs to 1 ps and can operate in a broad AOM controlled range of pulse repetition rates from a single shot to 5 MHz. While the maximum energy of >250 μ J, achieved while operating in burst mode, would ensure higher ablation rates and processing throughput for different materials.

The FemtoLux 30 laser is the perfect tool for display and microelectronics manufacturing, micro processing and marking of brittle materials, such as glass, sapphire, or ceramics, as well as for the highest quality micro processing of different metals and polymers.

Innovative laser control electronics ensure easy control of the FemtoLux 30 laser, thus reducing the time and human resources required for integrating this laser into other laser equipment.

High laser reliability and zero maintenance requirement of the FemtoLux 30 laser will ensure uninterrupted laser operation, fast ROI, and low ownership cost to the end-user.

Release date: Q3 of 2021

FEATURES

- ▶ **Zero maintenance**
- ▶ **Dry cooling (no water used)**
- ▶ **Robust and sealed laser head**
- ▶ **PSU and cooling unit integrated into single 4U rack housing**
- ▶ **Easy and quick installation**
- ▶ **Versatile laser control using REST API commands via RS232 and LAN**
- ▶ **Compatible with galvo and Polygon scanners as well as PSO controllers**
- ▶ **2 years of total warranty**

APPLICATIONS

- ▶ **LCD, LED, OLED drilling, cutting and repair**
- ▶ **Microelectronics manufacturing**
- ▶ **Glass, sapphire and ceramics micro processing**
- ▶ **Glass intra volume structuring**
- ▶ **Micro processing of different polymers**
- ▶ **Micro processing of different metals**