**Femtosecond fiber laser achieves 100W average power, 200-fs pulse duration for reliable material processing, R&D**

**Warsaw, Poland, April 27, 2021 —** Fluence,theleading femtosecond fiber laser manufacturer for material processing and life science and scientific applications, is pleased to announce the Jasper 100 laser, a custom version of the Jasper X0 series fiber laser. The Jasper 100 delivers an extremely useful set of parameters for precision material processing, including a maximum average power of 100W at 200-fs pulse duration, while maintaining excellent temporal pulse shape with a Strehl ratio of 96%.

“The new Jasper 100 laser takes its product family to the next level in terms of power, pulse duration, and optimum parameter set, providing customers with unparalleled performance for industrial and scientific applications where high power, repetition rates, and pulse shape are critical factors,” said Bogusz Stępak, Head of Laser Material Processing at Fluence.

In lab testing with the Jasper 100 laser, Fluence achieved a 200 fs pulse at 100W average power. While some competing lasers claim output power of up to 300W, these free-space lasers are costly, include mirrors that suffer from misalignment issues, have longer pulse durations, and require more maintenance at lower duty cycles than the Jasper 100 fiber laser. Jasper femtosecond lasers are built using a unique all-fiber, monolithic, and SESAM-free oscillator. Using the fiber construction, the lasers pose no risk for misalignment, providing customers with a dependable, high-performance laser for disparate industrial applications.

The Jasper 100 operates at repetition rate of 20 MHz, delivering 5 μJ of energy per pulse. With a high repetition rate and shorter pulses at this power output, the laser can create repeatable, precise, and clean micro features in micromachining applications.

“With a 30 µm spot size, the laser provides optimal fluence for stainless steel or aluminum processing at a very high repetition rate,” said Stępak. “Without using beam shaping optics, users can obtain high processing speeds in the range of300 m/s when combined with a fast polygon scanner, making the laser very attractive to industrial users and production lines.”

The Jasper family of ultrafast lasers serves many industrial applications, such as patterning, marking, micro- and nanostructure formation for producing superhydrophobic or anti-icing surfaces on various materials, as well as laser milling, glass cutting, and display processing. For more information, visit [fluence.technology/products/jasper/](https://fluence.technology/products/jasper/) or email Dariusz Świerad at swierad@fluence.pl.

**About Fluence**

Founded in 2016, Fluence Sp. z o.o. is a leading manufacturer of femtosecond fiber laser solutions. The company offers robust and stable industrial-grade femtosecond lasers that are immune to misalignment and feature a novel all-fiber oscillator for a robust, reliable package. Fluence is devoted to providing the highest quality standards and product reliability, offering a product lifetime that extends well over the warranty period.

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