Short-Pulsed Laser Illumination
For High-Speed Imaging Applications

Fire*BIRD*

Powerful 1000W Laser Light Source for Advanced Imaging Techniques

Fire*BIRD*

1000W laser light source synchs with high-speed cameras

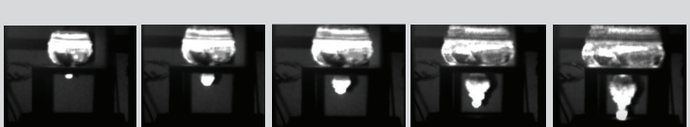
Designed as

Top performance, short-pulsed laser illumination for high-speed imaging

OXFORD LASERS

The Fire*BIRD* has been designed to easily interface with high-speed camera systems for capturing the highest quality images. The Fire*BIRD* makes high speed imaging easy - enabling you to view and optimise your process.

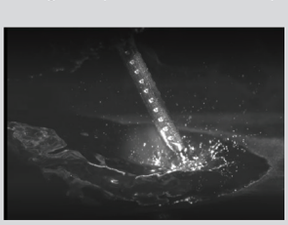
Energetic, Ballistic and Bright Events



Idaho National Laboratory

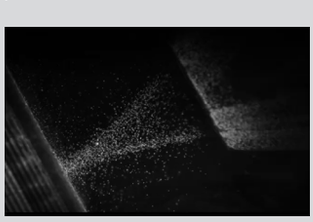
Imaging a Shape Charge Detonation

The Fire*BIRD* single wavelength (808nm) allows you to see through an explosive event and enable never-before seen images of energetic processes as they develop.



Seeing through the Brightness: Welding

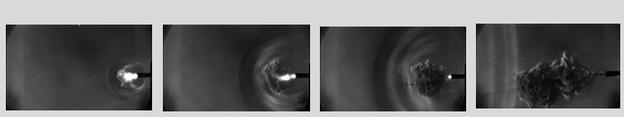
Understand the quality of your welding process. Visualise the melt pool with laser illumination to gain insight into your manufacturing processes.



Additive Manufacturing

Imaging of laser cladding and other techniqeus are possible with the Fire*BIRD*. Watch and evaluate the powder flow and nozzle focus for understanding the consistency of your coating process.

Dynamic Processes



Schlieren: Flow Visualisation

View flow processes that are invisible to the human eye. In the series of photos, follow the development of a small energetic event and the subsequent shock waves through the air.

General High-Speed Imaging

High-Speed Particle Imaging

Capture the detail with laser illumination of fast-moving particles. Evaluate the travel of droplets, sprays and projectiles.

Back Illumination

The versitile Fire*BIRD* excels at a range of techniques including back illumination when the high quality of imaging counts.

Fire*BIRD*

Short-pulsed laser illumination for high-quality imaging

Preliminary

Technical Specifications*

Name	Fire*BIRD* laser
Laser Class	Laser Class 4
Wavelength	808 nm
Laser power	1000 W**
Pulse duration	50 ns at full peak power 15 ns reduced power
Duty cycle	2% continuous operation
Maximum pulse frequency	1,000,000 Hz continuous
Maximum burst frequency	3,000,000 Hz*
Number of pulses per burst (externally triggered)	5000*
Voltage	100 to 240 VAC
Frequency	50/60 Hz
Operating system	Integrated Fire*BIRD* control software
Dimensions	Laser Head: 230 x 150 x 150 mm Controller: 270 x 200 x 65 mm
Weight	Laser Head: 5.5 kg Controller: 2.6 kg
Light delivery options	DAI (Direct Area Illumination, single fixed optic), or LLG (Flexible 2m Liquid Light Guide)
Remote operational control	Optional: Remote triggering over extended distance up to 600 m

*Subject to change, curent as of 22 July 2024
**at the diode

For over 45 years, Oxford Lasers have been working at the leading edge of laser technology. Providing products and services to a variety of industries for the advancement of production processes, R&D and development applications.

OXFORD LASERS

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