

Blade 1030 Femto

1030 nm Ultrafast Fibre Laser

Blade 1030 Femto is a high-performance femtosecond fibre laser aiming for both ophthalmology and ultrafast sciences. The laser has a short pulse duration of <300 fs, a broad repetition rate range between 1 Hz – 1 MHz. The maximum pulse energy and average power for the system are >5 µJ and >5 W, respectively. Drawing on a solid reliability track-record of the Blade Seed series, which have thousands of shipments so far, the laser features the best average power and beam pointing stability on the market. Other useful functionalities include a GDD precompensation feature (-600,000 to +600,000 fs²), ample electrical control such as gating/triggering and analogue input for external repetition rate tuning and single pulse selection. Customisation options include the combination with a second-harmonic generation (SHG) module to produce >1 µJ green femtosecond output. Blade 1030 Femto is well suited for a range of applications, including ophthalmological surgery, ultrafast source for pump-probe spectroscopy, nonlinear optical microscopy, wide-field excitation source, as well as some entry-level micromachining applications.

Applications:

- Pump-probe light source
- Ophthalmological surgery
- Nonlinear imaging in the fields of biology and semiconductors
- Processing of transparent brittle materials

Main Specification

Laser Parameters

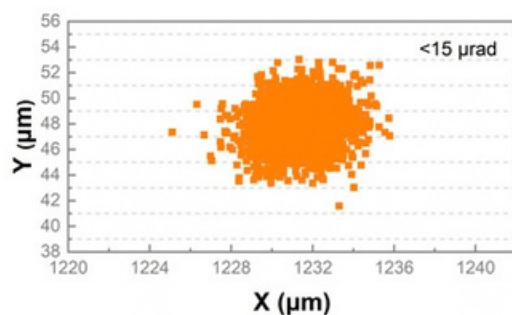
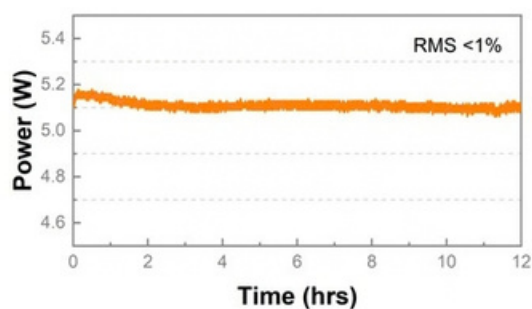
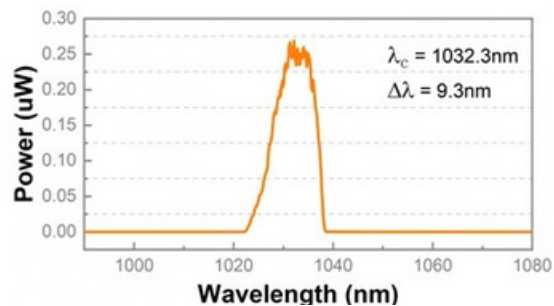
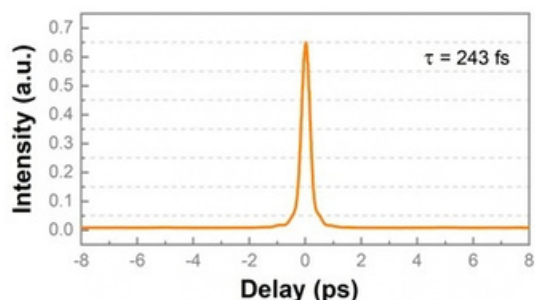
Central Wavelength	1030±5 nm	Divergence Angle	<1 mrad
Pulse Width (FWHM)	< 300 fs to 8 ps	Power Stability	<1% RMS (12hrs@25°C)
Average Power	>5 W	Beam Diameter	3±0.5 mm
Repetition Rate	1 Hz-1 MHz, supports single-shot	Pointing Stability	<30 µrad AC / <15 µrad WC
Pulse Energy	>5 µJ@1 MHz	Polarisation Extinction Ratio	>20 dB
GDD Compensation	-600,000 fs ² to +600,000 fs ²	Output Type	Spatially collimated output
Beam Quality	M ² <1.3(Typical value1.2)		

Electrical, Environmental and Mechanical Parameters

Supply Voltage	100-240 VAC	Dimensions	Laser Head: 647×390×185 mm;
Operational Temperature Range	15-35°C		Control Box: 521×365×156 mm
Operational Humidity Range	20-80% (non-condensing)	Cooling	Air cooling / Water cooling

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Test Data



Machine Drawing

