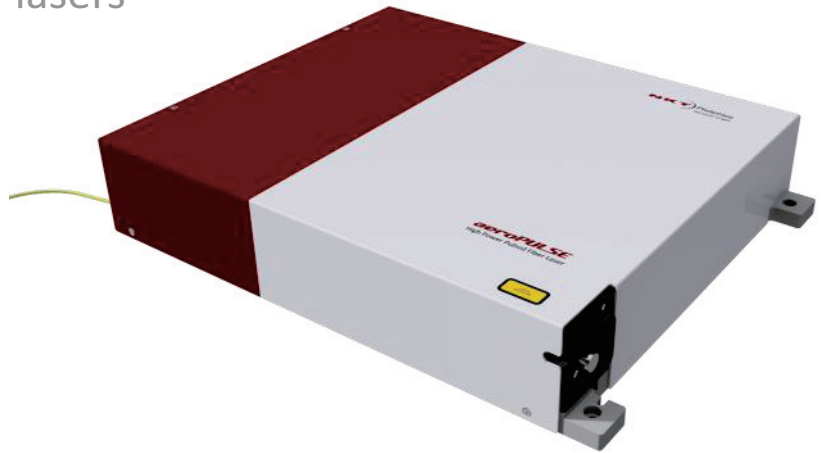


aeroPULSE FS

High power femtosecond fiber lasers

- Up to 20W average power
- 20uJ/pulse @ 1030nm
- Variable pulsewidths <500 fs to 3 ps
- Up to 20 MHz repetition rate
- Excellent beam pointing stability
- All-fiber design, industrial reliability
- System monitoring via remote diagnostics
- No warm-up time – instant ON



Applications

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

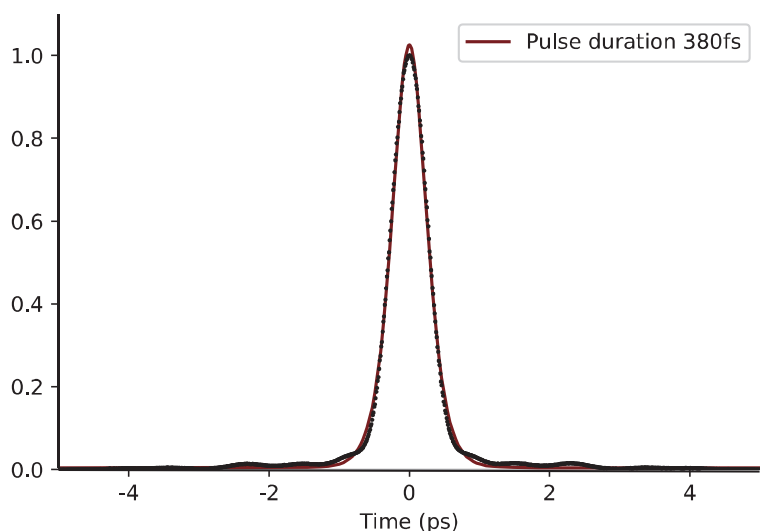
aeroPULSE FS is a portfolio of industrial-grade femtosecond fiber lasers based on NKT Photonics world renowned Crystal Fiber platform. This rugged and compact OEM lasers use state-of-the-art mode-locking technology to deliver ultra-short femtosecond pulses with outstanding long-term stability, superior pulse-to-pulse stability, low noise, and excellent TEM₀₀ mode quality. As standard, aeroPULSE FS is available with output powers up to 20W emitting at 1030nm.

The aeroPULSE FS lasers were developed for demanding 24x7 OEM applications, highlighting unit-to-unit consistency and uptime, low cost of ownership, and ease of integration. Designed for the stringent requirements of materials processing and micromachining applications where superior reliability is a mandatory attribute.

The system configuration consists of a 19" rack-mountable control unit and a very low profile laser head that can be mounted either horizontally or vertically. The complete system can be either air-cooled for low output power performance or water-cooled for high output power performance.



Typical pulse auto-correlation trace



aeroPULSE FS offers high stability after only a few seconds with no warm-up time.

Specifications

Optical

Power ¹⁾	Up to 20 W
Wavelength ¹⁾	1030 nm
Energy per pulse	Up to 20 μ J
Pulse duration	<500 fs to 3 ps
Repetition rate, adjustable ¹⁾	200 kHz - 1 MHz
Polarization	Linearly polarized, PER > 17 dB
Beam diameter	\sim 1 mm
Beam divergence	1.6 \pm 0.2 mrad
Spatial mode	Fundamental, $M^2 \leq 1.2$
Power fluctuation (50 hours)	< 0.5 %
Warm-up Time	< 1 min

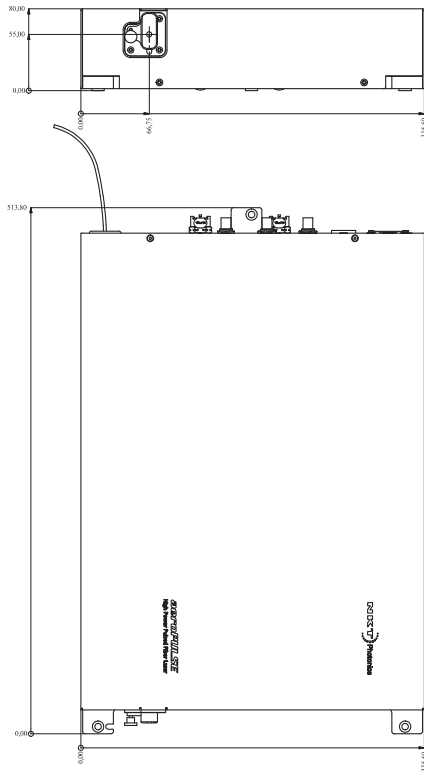
1) Other values available on request

Mechanical/Electrical

Computer Interface	USB, RS 232						
Operation Voltage	100-240 VAC 50/60 Hz						
Power Consumption	<330 W						
System Cooling	Air or water cooled						
Chiller	Included (rack mount or floor stand)						
Operation Temperature	18-30°C						
Storage Temperature	-10°C to +60°C						
Dimensions (WxHXL)	<table border="0"> <tr> <td>Laser head</td> <td>335x80x513mm</td> </tr> <tr> <td>Control box</td> <td>375x177x440mm (4U 19" rack)</td> </tr> <tr> <td>Chiller</td> <td>330x197x279mm (floor stand) 432x177x438mm (rack mount)</td> </tr> </table>	Laser head	335x80x513mm	Control box	375x177x440mm (4U 19" rack)	Chiller	330x197x279mm (floor stand) 432x177x438mm (rack mount)
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Weight	<table border="0"> <tr> <td>Laser head</td> <td>10.2 kg</td> </tr> <tr> <td>Control box</td> <td>Up to 14.7 kg</td> </tr> <tr> <td>Chiller</td> <td>3 kg</td> </tr> </table>	Laser head	10.2 kg	Control box	Up to 14.7 kg	Chiller	3 kg
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All NKT Photonics products are produced under our quality management system certified in accordance with the ISO 9001:2008



Support and Warranty

aeroPULSE support/warranty

All aeroPULSE 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.

Lifetime

The aeroPULSE systems are driven by our proven pulsed platform used in the SuperK EXTREME supercontinuum lasers. Consequently, the systems are completely maintenance free and has an expected lifetime of more than 20,000 hours.

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