

aeroPULSE FS

High power femtosecond fiber lasers

- 20W average power
- 20uJ/pulse @ 1030nm
- Available pulse widths <500 fs to 3 ps
- Up to 50 MHz repetition rate
- Excellent beam pointing stability
- All-fiber design, industrial reliability
- System monitoring via remote diagnostics
- Very quick warm-up time

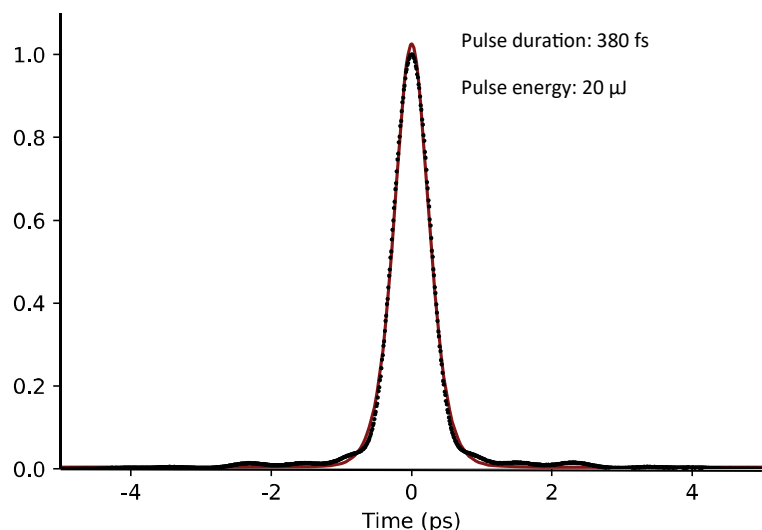


aeroPULSE FS is a portfolio of industrial-grade femtosecond fiber lasers based on NKT Photonics world renowned Crystal Fiber platform. This rugged and compact OEM lasers use state-of-the-art mode-locking technology to deliver ultra-short femtosecond pulses with outstanding long-term stability, superior 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 is water-cooled supporting high output power performance.

Typical pulse auto-correlation trace

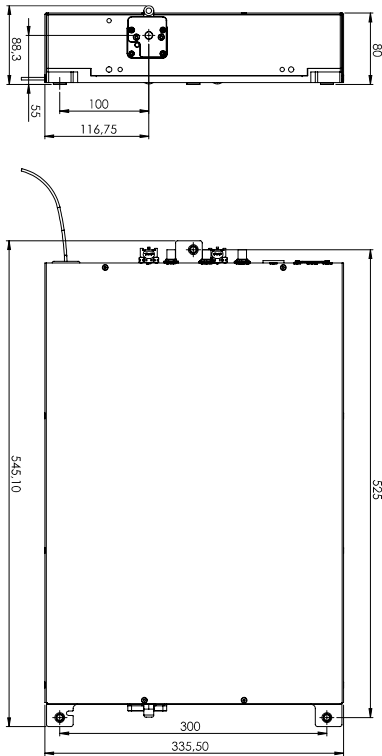


aeroPULSE FS offers very clean pulses with virtually no pedestal

Applications

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





Specifications

Optical

Power*	20 W
Wavelength*	1030 nm
Energy per pulse	20 μ J (at 800 kHz)
Pulse duration, available	<500 fs to 3 ps
Repetition rates, available*	200 kHz - 50 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

* Other values available on request

Mechanical/Electrical

Computer Interface	USB 2.0, RS 232						
Operation Voltage	100-240 VAC 50/60 Hz						
Power Consumption	<330 W						
System Cooling	Water cooled						
Chiller	Included (rack mount or floor stand)						
Operation Temperature	18°C—30°C						
Storage Temperature	-10°C—60°C						
Dimensions (WxHxL)	<table border="0"> <tr> <td>Laser head</td> <td>335.5 x 88.3 x 545.1 mm³</td> </tr> <tr> <td>Control box</td> <td>375 x 177 x 440 mm³ (4U 19" rack)</td> </tr> <tr> <td>Chiller</td> <td>330 x 197 x 279 mm³ (floor stand) 432 x 177 x 438 mm³ (rack mount)</td> </tr> </table>	Laser head	335.5 x 88.3 x 545.1 mm ³	Control box	375 x 177 x 440 mm ³ (4U 19" rack)	Chiller	330 x 197 x 279 mm ³ (floor stand) 432 x 177 x 438 mm ³ (rack mount)
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Support and Warranty

aeroPULSE support/warranty

All aeroPULSE products comes with industry leading reliability and are backed by our standard 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 our 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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See www.nktphotonics.com for global offices and distributors

All NKT Photonics products are produced under our quality management system certified in accordance with the ISO 9001:2015 standard.

