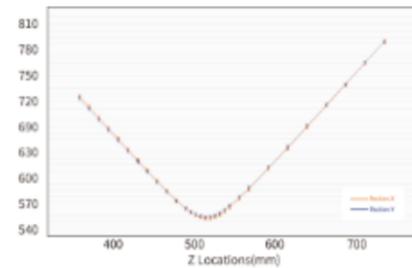# IR Ultrafast Laser

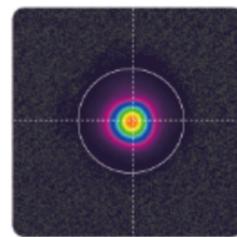## IR Picosecond / IR Femtosecond Laser

- **Max output power:** 300 W, pulse energy up to 3.5 mJ (capable of cutting glass > 19 mm thick)

- **Beam quality:** $M^2 < 1.3$

- **Control & functions:** RS232, GATE, TRIG, and PSO support

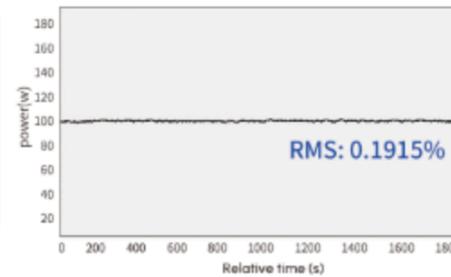- **Design:** Modular, stable, and easy to maintain

PRODUCT ADVANTAGES

Excellent beam quality

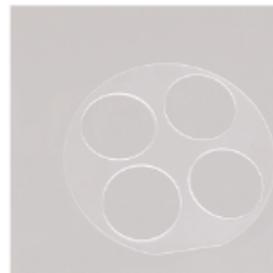
Typical spot size for high-power infrared picosecond lasers

RMS: 0.1915%

RMS power stability: 0.1915%

APPLICATION AREA

Glass cutting and drilling holes

Ultra-fast lasers enable high-precision, crack-free glass cutting and micro-hole processing, ideal for consumer electronics.
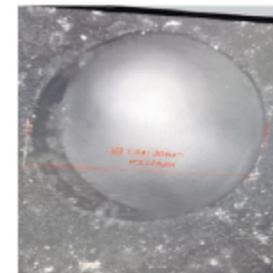

Sapphire cutting

Ultra-short pulses deliver efficient, low-loss sapphire cutting with smooth edges and no thermal damage.

TGV glass through hole

Fast, low-taper laser drilling supports high-density 3D packaging and advanced PCBs.
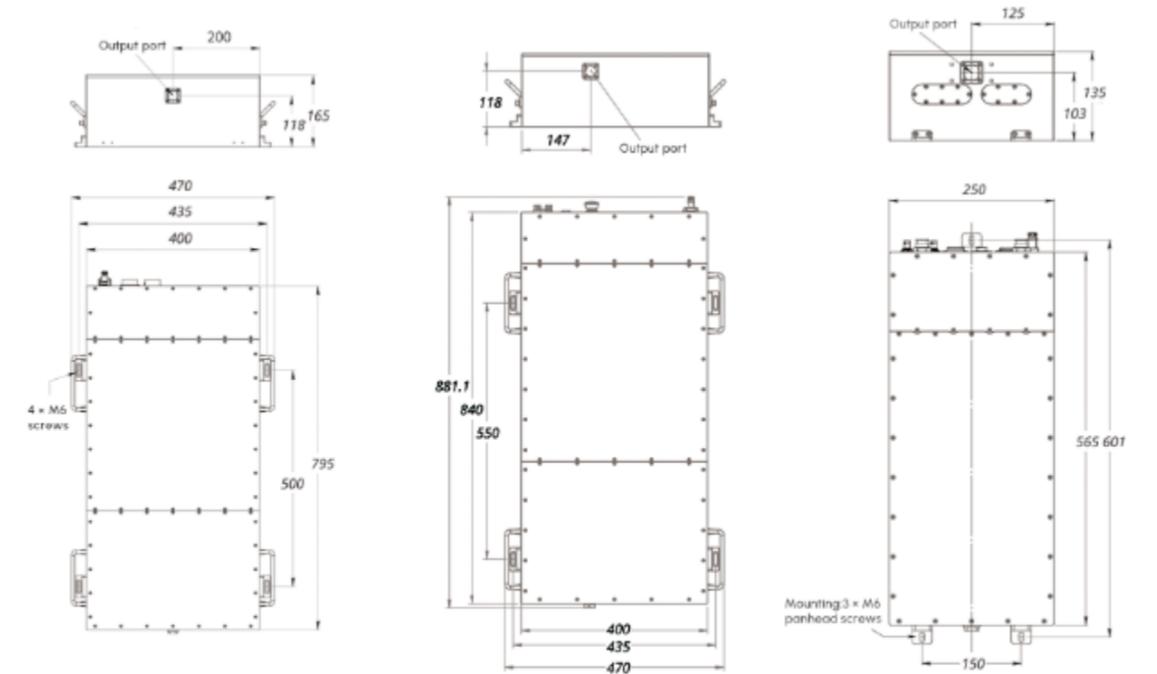

Aero engine special materials processing

Enables precision microstructure processing of high-temperature alloys with minimal thermal impact, ideal for complex engine conditions.

TECHNICAL INDICATORS

Parameter	IR Femtosecond Laser	IR Picosecond Laser				
Product series	FSIR Series	PHIR Series		PMIR Series	PLIR Series	Customized
	FSIR-50	PHIR-300	PEIR-90	PMIR-70	PLIR-20	PSIR-50-50P
Wavelength	1030 nm	1064 nm				
Repetition rate	50-2000 KHz	1MHz-2MHz	30-2000 KHz	30-2000 KHz	50-2000KHz	1-2000 KHz
Pulse width	500fs-5ps	10 ps				50 ps-300 ps (pulse customizable)
Average power	≥50 W	≥300 W	≥90 W	≥70 W	≥20 W	≥50 W
Maximum pulse energy	≥500µJ	≥300µJ	≥3mJ	≥2.3mJ	≥400uJ	≥10mJ
Beam quality (M²)	$M^2<1.2$	$M^2<1.3$				
Polarization extinction ratio	>100:1					
Output beam diameter	3mm	2mm				
Beam divergence	<0.7 mrad	<1 mrad				
Power stability(RMS)	RMS<0.8%				RMS<0.5%	
Cooling method	Purified water cooling					

Note: Other indicators can be customized. Please contact our sales team for details.

MECHANICAL DRAWING & DIMENSIONS

PHIR Series Size Chart

PMIR Series Size Chart

PLIR Series Dimension Chart