

# BLAZER-IR Series



## High-Power Industrial Infrared PS-Laser



BLAZER-IR series laser is a high-power industrial-grade infrared picosecond laser with the highest average output power of >100W, high peak power and repeatable frequency up to 2000kHz.

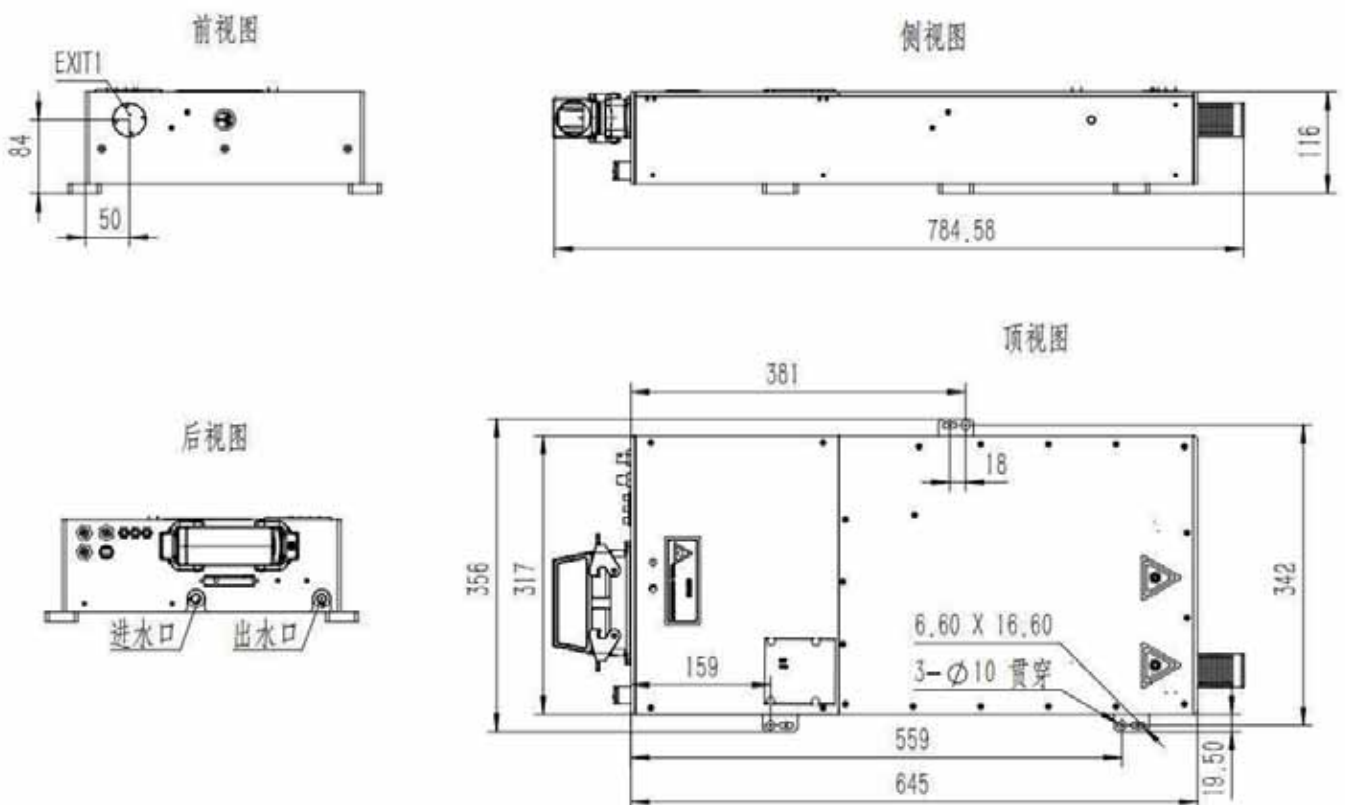
This series of lasers have compact structure, small volume, high stability in long time operation and are suitable for rapid system integration.

### FEATURES & BENEFITS:

- 15-100W@1064nm
- 100-2000kHz repetition rate
- < 15ps pulse duration
- High Beam quality  $M^2 \leq 1.3$
- Compact, hermetic and robust mechanical design
- Fully detachable umbilical
- Burst mode
- Integrated process shutter
- Position synchronized output

### APPLICATIONS:

- Cutting and drilling of brittle materials, transparent material
- Cutting of thick glass
- High-speed marking



BLAZER-IR-20/30 Mechanical Specifications Unit: mm

SPECIFICATIONS	BLAZER-IR Series			
	IR-20	IR-30	IR-50	IR-100
Single Wavelength Output (nm)	1064 nm			
Pulse Repetition Rate Range (kHz)	100 – 2000 kHz			
Pulse Duration (ps)	< 15			
Power <sup>1</sup> (W)	20	30	50	100
Maximum Pulse Energy (μJ)	150	300	250	125
Beam Spatial Profile	TEM <sub>00</sub>			
Beam Quality Parameter (M <sup>2</sup> )	≤1.3			
Beam Diameter (mm)	~2mm (Customizable)			
Pulse-to-Pulse Energy Stability (RMS)	< 2%			
Average Power Stability <sup>2</sup> (RMS)	< 2%			
Polarization Ratio	> 100:1			
Beam Circularity (%)	> 85			
Beam-Pointing Stability <sup>3</sup> (μrad/°C)	< 50			
Beam Divergence, full angle <sup>4</sup> (mrad)	< 2mrad			
Warm-up Time from Chiller Start (minutes)	< 40			
Electrical Supply	220V AC ±5% / 50-60Hz			
Power Consumption	< 2.5kW (typical 50W at 500kHz)			
Cooling Type	Closed-loop water cooling			
Dimensions				
Laser Head	785 × 356 × 116 mm		862 × 439 × 116 mm	
Power Supply	4U		4U	
<b>BURST MODE OPERATION</b>				
Maximum Number of Pulses in Burst	10			
<b>OPERATING SPECIFICATIONS</b>				
Allowed Temperature Range During Operation	15-35°C			
Humidity	<65%			

## NOTES:

1. Please provide operating Rep. rate for optimum output power.
2. Average in 8 hours with room temperature variation  $\Delta T < 3^{\circ}\text{C}$
3. Maximum deviation from beam mean centroid
4. Full angle for 86.5% of energy


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# BLAZER-GR Series



## High-Power Industrial Green PS-Laser



### FEATURES & BENEFITS:

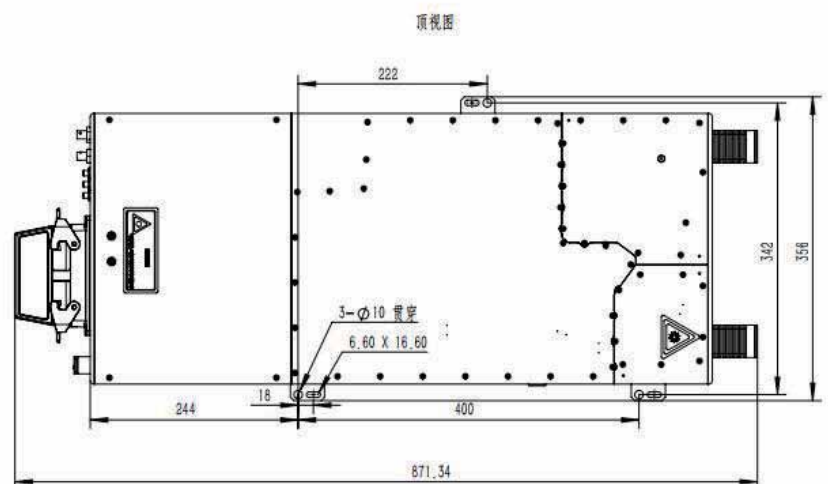
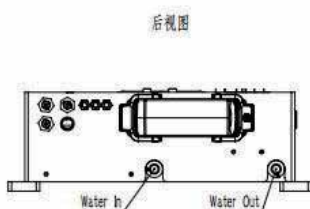
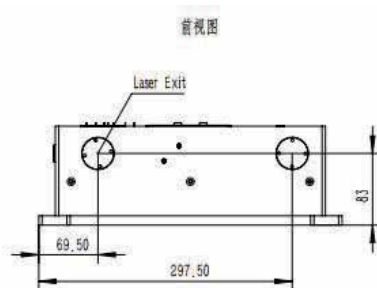
- 15-50W@532nm
- 100-2000kHz repetition rate
- < 15ps pulse duration
- High Beam quality  $M^2 \leq 1.3$
- Compact, hermetic and robust mechanical design
- Fully detachable umbilical
- Burst mode
- Integrated process shutter
- Position synchronized output

BLAZER-GR series laser is a high-power industrial-grade green picosecond laser with the highest average output power of >100W, high peak power and repeatable frequency up to 2000 kHz.

This series of lasers have compact structure, small volume, high stability in long time operation and are suitable for rapid system integration.

### APPLICATIONS:

- Cutting and drilling of PCB/FPC
- Selective removal of complex composite structures from dissimilar materials
- Cutting and drilling of brittle materials, transparent material



BLAZER-GR-10/30 Mechanical Specifications Unit: mm

SPECIFICATIONS	BLAZER-GR Series		
	GR-10	GR-30	GR-50
Single Wavelength Output (nm)	532 nm		
Pulse Repetition Rate Range <sup>1</sup> (kHz)	100 – 2000 kHz		
Pulse Duration (ps)	< 15		
Power <sup>2</sup> (W)	10	30	50
Maximum Pulse Energy (μJ)	50	60	100
Beam Spatial Profile	TEM <sub>00</sub>		
Beam Quality Parameter (M <sup>2</sup> )	≤1.3		
Beam Diameter (mm)	~2mm (Customizable)		
Pulse-to-Pulse Energy Stability (RMS)	< 2%		
Average Power Stability <sup>3</sup> (RMS)	< 2%		
Polarization Ratio	> 100:1		
Beam Circularity (%)	> 85		
Beam-Pointing Stability <sup>4</sup> (μrad/°C)	< 50		
Beam Divergence, full angle <sup>5</sup> (mrad)	< 1mrad		
Warm-up Time from Chiller Start (minutes)	< 40		
Electrical Supply	220V AC ±5% / 50-60Hz		
Power Consumption	< 2.5kW (typical 50W at 500kHz)		
Cooling Type	Closed-loop water cooling		
Dimensions			
Laser Head	875×356×116 mm	875×356×116 mm	875×459×116 mm
Power Supply	4U	4U	4U
<b>BURST MODE OPERATION</b>			
Maximum Number of Pulses in Burst	10		
<b>OPERATING SPECIFICATIONS</b>			
Allowed Temperature Range During Operation	15-35°C		
Humidity	<65%		

## NOTES:

1. All characteristics measured at 500kHz unless otherwise noted
2. Please provide operating Rep. rate for optimum output power.
3. Average in 8 hours with room temperature variation  $\delta T < 3^{\circ}\text{C}$
4. Maximum deviation from beam mean centroid
5. Full angle for 86.5% of energy


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# BLAZER-UV Series



## High-Power Industrial Ultraviolet PS-Laser



### FEATURES & BENEFITS:

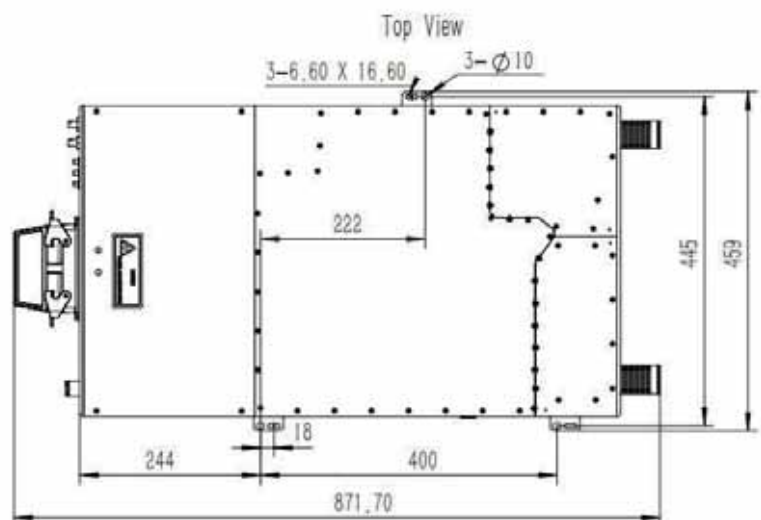
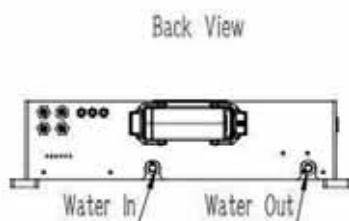
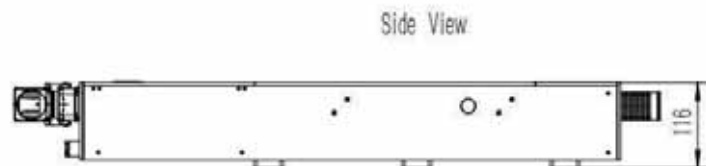
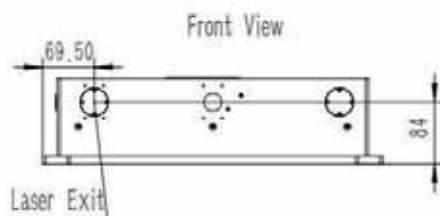
- 15-50W@355nm
- 100-2000kHz repetition rate
- < 15ps pulse duration
- High Beam quality  $M^2 \leq 1.3$
- Compact, hermetic and robust mechanical design
- Fully detachable umbilical
- Burst mode
- Integrated process shutter
- Position synchronized output

Blazer-UV series laser is a high-power industrial-grade ultraviolet picosecond laser with the highest average output power of >100W, high peak power and repeatable frequency up to 2000kHz.

This series of lasers have compact structure, small volume, high stability in long time operation and are suitable for rapid system integration.

### APPLICATIONS:

- Wafer Sawing
- Cutting and drilling of PCB/FPC
- Selective removal of complex composite structures from dissimilar material



BLAZER-UV-30/40 Mechanical Specifications Unit: mm

SPECIFICATIONS	BLAZER-UV Series		
	UV-15	UV-30	UV-40
Single Wavelength Output (nm)	355 nm		
Pulse Repetition Rate Range <sup>1</sup> (kHz)	100 – 2000 kHz		
Pulse Duration (ps)	< 15		
Power <sup>2</sup> (W)	15	30	40
Maximum Pulse Energy (μJ)	50	60	80
Beam Spatial Profile	TEM <sub>00</sub>		
Beam Quality Parameter (M <sup>2</sup> )	< 1.3		
Beam Diameter (mm)	~2mm (Customizable)		
Pulse-to-Pulse Energy Stability (RMS)	< 2%		
Average Power Stability <sup>3</sup> (RMS)	< 2%		
Polarization Ratio	> 100:1		
Beam Circularity (%)	> 85		
Beam-Pointing Stability <sup>4</sup> (μrad/°C)	< 50		
Beam Divergence, full angle <sup>5</sup> (mrad)	< 1mrad		
Warm-up Time from Chiller Start (minutes)	< 40		
Electrical Supply	220V AC ±5% / 50-60Hz		
Power Consumption	< 2.5kW (typical 50W at 500kHz)		
Cooling Type	Closed-loop water cooling		
Dimensions			
Laser Head	875×356×116 mm	875×459×116 mm	
Power Supply	4U	4U	
<b>BURST MODE OPERATION</b>			
Maximum Number of Pulses in Burst	10		
<b>OPERATING SPECIFICATIONS</b>			
Allowed Temperature Range During Operation	15-35°C		
Humidity	<65%		

**NOTES:**

1. All characteristics measured at 1000kHz unless otherwise noted
2. Please provide operating Rep. rate for optimum output power.
3. Average in 8 hours with room temperature variation  $\Delta T < 3^{\circ}\text{C}$
4. Maximum deviation from beam mean centroid
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