



**RAYCUS HIGH POWER FIBER LASER SOURCE
OUTPUT POWER - 12000W**



Raycus High Power the cutting-edge multimode continuous fiber laser series product, developed and produced by Raycus in-house. The research and development team has great innovation capability, so as to make this series meet customers' demands to the fullest. It also has a reinforced and shielded fiber optic system, with a QBH output connector, making it easier for customers to configure. This series product, with dynamic working range of 10% to 100% of rated output power, electro-optical conversion efficiency of more than 25% and modulation frequency up to 20kHz, can meet the demands of most application scenarios., with multiple control modes.



TECHNICAL PARAMETER:

OPTICAL CHARACTERISTICS

Output Power	: 12000 W	
Operation Mode	: CW/Modulated	
Polarization State	: Random	
Power Range	: 10~100%	
Central Wavelength	: 1080±5 nm	(Nominal Output Power)
Output Power Instability	: ±1.5%	(Nominal Output Power)
		Duration ≥5 Hrs.
		Ambient Temp: 25±1°C
Modulation Frequency	: 50~2000 Hz	(Nominal Output Power)
Red Laser Output Power	: 0.5~1 mw	
Fiber output Types	: QD	
Beam Quality	: <5 mm x rad	
Divergence Angle	: ≤ 0.1 rad	
Core Fiber (μm)	: 100 (Customizable)	
Delivery Cable	: 30	Customizable Length

ELECTRICAL CHARACTERISTICS

Power Supply	: Three-Phase Four-wire System	
	: AC323V~AC437V, 50/60Hz (Include PE)	
Max. Power Consumption	: 36.5 KW	
Power Supply Voltage	: >80 kVA	
Control Mode	: Serial Communication / AD	

OTHER CHARACTERISTICS

Dimension (W x H x D)	: 1200 x 960 x 1160 (Include Handle)	
Weight	: <500 kg.	
Operating Ambient Temperature	: 10~40 °C	
Humidity	: <70%	
Storage Temperature	: -10~60 °C	
Cooling Method	: Water Cooling	



FEATURES:

- Excellent beam quality
- High reliable and sealing
- High power stability
- Power continuously adjustable and fast switch response
- Maintenance-free operation
- High Electro-optical Conversion Efficiency
- Anti-reflection Capacity
- High modulation frequency and editable waveform

APPLICATIONS:

- Laser Cutting
- Laser Welding
- Sheet Metal Piercing
- Metal Carving
- Surface Treatment
- 3D Printing/Rapid Prototyping

COOLING REQUIREMENTS :

Cooling Capacity	: ≥ 36 (Kw)
Minimum Flow	: > 94 L/min
Maximum Input Pressure	: 7 Bar
Hose Inner Diameter	: $\phi 32$
Cooling System Water Temperature setting	: 25 ± 0.5 °C



Requirements on Cooling Water:

- Purified water should be used.
- In order to prevent the growth of mould that may lead to blockage, adding alcohol solution to about 10% of the total volume is recommended.
- If ambient temperature is between -10°C and 0°C, we recommend to use 30% alcohol (volume ratio), and replace it every 2 months.
- If ambient temperature is below -10 °C, the chiller with both heating and cooling functions must be used, and keep it in full-time operation.

Requirements for output cable cooling system:

- Rate of liquid flow: 1.7~2.0 L/min;
- Pressure of liquid flow: < 0.6 MPa at the inflow;
- Type of liquid exchange junction: Two-Touch Fitting M5 to $\phi 6$;
- Type of tube: outer diameter $\phi 6$; inner diameter $\phi 4$;
- Direction of cooling liquid: unidirectional; connect the tube with the water-pipe strictly according to direction shown on the layer of the tube;
- Type of liquid: de-ionized water, condensed water, pure water;
- PH value of liquid: 5.5 - 9;
- Filter is needed for the cooling system, and the size of the solid residual practicals should be within 100um;
- Maximum temperature of liquid: 45°C;
- Minimum temperature of liquid: greater than the saturated dew-point 5°C;
- Additive to the liquid: satisfies the requirements of PH value and size of solid residual practical's as above;
- Radius of the bending of the armored pipe: off-work state (i.e. transportation and reservation): minimum radius of bending ≥ 20 cm; in-work state: minimum radius of bending ≥ 30 cm;
- Long-term vibration < 2 G; Impact action < 10 G



