

M100/ M150 RF CO₂ Lasers

The M Series RF CO₂ lasers is designed with a slab discharge configuration, with the M100 lasers achieving a peak power of over 250W and the M150 lasers exceeding 375W. This compact laser design integrates the RF power supply with the laser cavity, allowing for flexible installation options, either vertically or horizontally.

The M Series lasers deliver excellent beam quality and power stability. With short pulse rise and fall times, the M Series lasers significantly enhance production efficiency. The high peak power and superior beam quality make the M Series lasers an ideal choice for a wide range of material processing applications.

The M series RF CO₂ lasers is built on a universal platform, featuring standardized mechanical, electrical, and optical interfaces, along with common software and unified service and support. The power range extends from 100W to 500W.



Advantages

- Wide range of operating power
- High peak power
- Short power rise and fall time
- Excellent beam quality
- High power stability
- RF power supply can be Installed vertically or horizontally

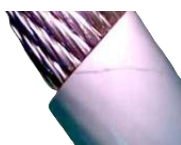
Applications

- Marking
- Engraving
- Cutting
- Drilling

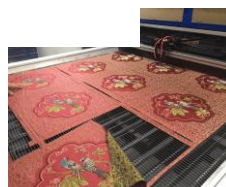
Application Scenarios:



Thermos Cups
Marking



Wires Stripping



Fabric Cutting



Tyre Marking

M100/M150 Product Specifications

SPECIFICATIONS	MODEL	M100i	M100	M150
	Wavelength (μm)		9.3	10.6
Output Power(W) ^①		≥ 90W	≥ 100W	≥ 150W
Power Range(W)		10-90W	10-100W	10-150W
Peak Power(W)		225W	250W	375W
Power Stability(%) ^②		< ±6%		
Mode Quality (M ²)		M ² < 1.3		
Beam Ellipticity		< 1.2:1		
Beam Diameter(mm) ^③		2.2±0.6		
Full-Angle Beam Divergence(mrad)		< 7		
Typical Polarization (parallel to baseplate)		> 100:1		
Pulse Frequency (kHz)		0 - 100kHz		
RF Excitation Pulse Width Range (μs)		2 - 1000μs		
Duty Cycle Limit (%)		0 ~ 60%		
Pulse Rise/Fall Time(μs)		< 90μs		
Weight		22.8kg		
Dimensions (L x W x H)		908.4*164.6*134.8		
Cooling		Water		
Heat Load (W)		< 2400W		
Input Power				
DC Input Voltage (VDC)		48VDC		
Continuous DC Input Current(A) ^④		50A		
Environment Condition				
Maximum Case Temperature		5°C ~ 40°C		
Temperature		< 50°C		
Altitude		< 2000m		
Humidity		< 80%, Non-Condensing		
Shipping/Storage Environment		-10°C ~ 60°C, Non-Condensing		
Coolant				
Dynamic Coolant Flow Rate (l/min.)		6L/min		
Coolant Maximum Static Pressure (kPa)		210-500kPa		
Coolant Setpoint Temperature Range		20°C - 30°C		
Hardness of water (CaCO ₃)		< 250mg/L		

The above specifications are subject to change without prior notice.

Notes:

- ① Measured at 10 kHz PRF, 60% duty cycle after a 5 minutes warm-up from cold start.
- ② Power Stability definition: At a constant water temperature, $\pm (P_{max}-P_{min})/(2P_{max})$
- ③ Measured at the position of shaping lens light outlet
- ④ Measured at 10 kHz PRF and 60% duty cycle operation, maximum average input current