

YLM-QCW & YLR-QCW

Single-mode QCW Fiber Lasers

Ideal Replacement for
Lamp Pumped YAG Lasers
Single-mode Beam Quality



Single-mode quasi continuous wave **YLM-150/1500-QCW** and **YLR-150/1500-QCW** fiber lasers are ideal for applications requiring high peak power and small focal spot in pulsed operation mode such as microcutting of highly reflective metals (copper, brass, aluminum) and non-metals (sapphire, ceramics, silicon etc.), and a variety of microwelding and microdrilling applications. IPG QCW lasers provide tenfold increase of peak power in comparison with average CW power in long pulse operation mode with pulse durations from 10 microsecond to 50 milliseconds and pulse energy up to 15 Joules.

The single-mode QCW Series lasers are offered as both end user friendly rack units and OEM modules for system integrators. These compact air-cooled lasers are substantially more cost-effective than lamp-pumped YAG lasers due to energy efficiencies >30% and maintenance-free operation. Water-cooling can be provided on request. The QCW fiber lasers are available for requalifying in existing lamp-pumped processes at IPG application facilities. The QCW Series utilizes the new pump diodes optimized for pulsed operation and features redesigned control electronics with extended functionality.



FEATURES

- ▶ CW Power 250 W, Peak Power 1.5 kW
- ▶ Perfect Beam Quality, M^2 1.05
- ▶ Outstanding Pulse Power/Energy Stability
- ▶ Air-cooled Rack Units or OEM Modules
- ▶ Pulse Shaping/Internal Pulse Generator
- ▶ Highly Efficient >30% Energy Efficiency



APPLICATIONS

- ▶ Microcutting of Highly Reflective Metals
- ▶ Spot Welding and Seam Welding
- ▶ Microkeyhole and Conduction Welding
- ▶ Cutting of Sapphire, Ceramics and Silicon
- ▶ Microdrilling of Metals and Non-metals
- ▶ Batteries, Medical Devices, Electronic Components

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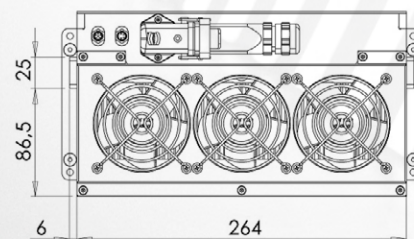
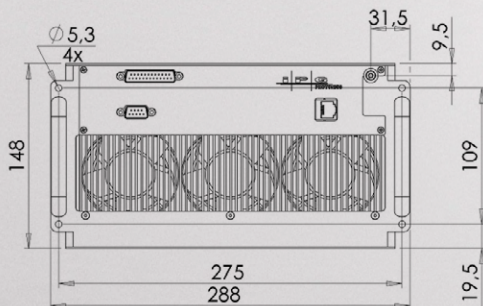
Optical Characteristics	YLM-150/1500-QCW	YLR-150/1500/QCW
Wavelength, nm	1070 ±5	
Mode of Operation	Pulsed/CW	
Modulation Frequency, kHz	0-50	
Max. Average Power CW mode, W	250	
Max. Average Power QCW mode, W	150	
Maximum Peak Power, W	1500	
Maximum Pulse Energy, J	15	
Pulse Duration*, ms	0.05-50	
Power Tunability, %	10-100	
Power Stability**, %	±0.5	
Beam Quality, M ²	1.05	

* The minimum pulse duration is 10 microseconds upon request. Please contact your IPG Representative.

** Over 4 hours, T=const

General Characteristics	YLM-150/1500-QCW	YLR-150/1500/QCW
Console Dimensions (WxDxH), mm	256×435×148	448×504×177
Weight, kg	<25	<30
Cooling	Air*	
Supply Voltage	48 VDC	100-240 VAC, 50-60 Hz, single-phase
Wall-plug Efficiency, %	>30	

* Water cooling is available upon request.



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IPGPhotonics.com/contact
www.ipgphotonics.com

MAX. AVERAGE OUTPUT POWER: 500 W
 MAX. PEAK OUTPUT POWER: 3,000 W
 PULSE DURATION: 0.01-100 ms
 PULSE REPETITION RATE: 0-50 kHz
 WAVELENGTH RANGE: 900-1200 nm

DANGER - INVISIBLE LASER
 RADIATION AVOID EYE OR SKIN
 EXPOSURE TO DIRECT OR
 SCATTERED RADIATION
 CLASS 4 LASER PRODUCT
 IEC 60825-1:2014