

# YLR-QCW

## Quasi-CW Ytterbium Lasers

High Pulse Energy in  
Long Pulse Mode



### FEATURES

- ▶ Outstanding Pulse Power / Energy Stability
- ▶ >30% Wall-plug Efficiency
- ▶ CW and Pulsed Modes
- ▶ Beam Quality Optimized for Applications
- ▶ Internal Pulse Generator & Pulse Shaping
- ▶ Low Cost High Peak Power



### APPLICATIONS

- ▶ Replacement for Lamp-pumped Lasers
- ▶ Spot Welding, Seam Welding
- ▶ Microwelding
- ▶ Drilling, Cutting
- ▶ Batteries, Medical Devices
- ▶ Computer Components
- ▶ Additive Manufacturing

IPG's quasi continuous wave (QCW) fiber lasers are available for requalifying existing lamp-pumped processes at IPG's application facilities and applications labs. QCW fiber lasers are ideal for spot welding, seam welding & drilling in the long pulse operation mode. These air-cooled, compact units are substantially more cost-effective than conventional YAG lasers due to >30% wall-plug efficiencies and maintenance-free operation. Retrofit services, including engineers familiar with system integration, are available to help customers replace older production lasers with energy-efficient fiber lasers from IPG. The QCW Series features 19" rack mounted units and highly cost-effective OEM modules.

# YLR-QCW

## Quasi-CW Ytterbium Lasers

Optical Characteristics	150/1500-QCW	300/3000-QCW	450/4500-QCW
Wavelength, nm		1070 ±5	
Mode of Operation		Pulsed / CW	
Modulation Frequency, kHz		0 - 50	
Maximum Average Power, W	150	300	450
Maximum Peak Power, W	1500	3000	4500
Maximum Pulse Energy, J	15	30	45
Pulse Duration*, ms		0.05 - 50	
Power Tunability, %		10 - 100	
Power Stability**, %		±0.5	
Beam Quality, M <sup>2</sup>	1.05		N/A
Output Fiber Core Diameter, μm		50, 100 and 200	
Beam Parameter Product, mm × rad		2, 5, 10	

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

\*\* Over 4 hours, T=const

\*\*\* Single-mode model is available at 1.5 kW peak power.

General Characteristics	150/1500-QCW	300/3000-QCW	450/4500-QCW	
			AC	WC
Dimensions (W × D × H), mm	448 × 502 × 177		448 × 680 × 266	448 × 680 × 177
Weight, kg	30	50	55	
Cooling	Air		Air	Water
Supply Voltage, single-phase, VAC	100 - 240, 50 - 60 Hz			
Wall-plug Efficiency, %	>30			

\*Water cooling is available upon request.



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MAX AVERAGE OUTPUT POWER: 900 W  
 MAX. PEAK OUTPUT POWER: 9000 kW  
 PULSE DURATION: 0.05 - 50 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**