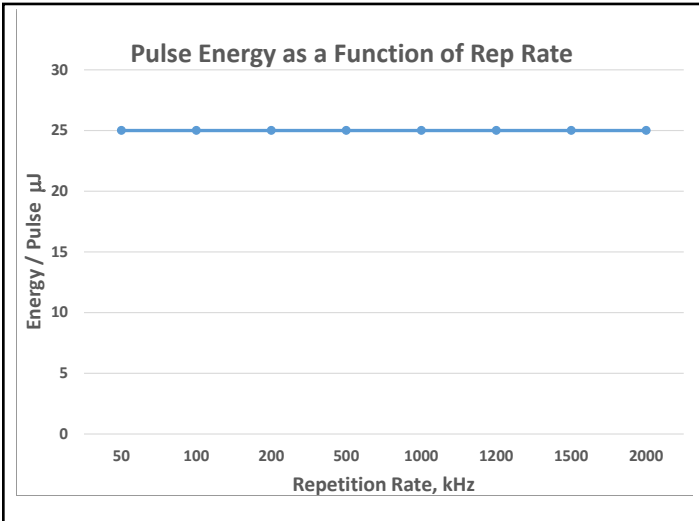




# YLPP-25-3-50-R

## Ytterbium Picosecond Fiber Laser

**NEW PRODUCT**



50 W, <3 ps

### Applications

- ▶ Precision Micromachining
- ▶ Black Marking of Stainless Steel or Aluminum
- ▶ Surface Microstructuring and Texturing
- ▶ Multilayer Polymer Film Cutting
- ▶ Sattery and Thin Metal Foil Cutting
- ▶ Sapphire LED Wafer Scribing
- ▶ Thin Film Ablation for Solar/PV/ Flat Panel Display
- ▶ Cutting & Drilling Glass/Sapphire
- ▶ Precise Marking of Metals/Polymers/Glass
- ▶ Micromachining of Ceramics

### Features

- ▶ Ultra-compact, 1.5 kg Laser Head
- ▶ Broad Frequency of Operation 50 kHz – 2 MHz
- ▶ Pulsewidth <3 ps
- ▶ Pulse Energy 25  $\mu\text{J}$
- ▶ Warm Start in Seconds
- ▶ Power 50 W Average, 10 MW Peak
- ▶ Cold Start in Seconds
- ▶ Integrated Delivery Fiber to Remote Head
- ▶ Integrated Scanner Option Available

**IPG's NEW YLPP-25-3-50-R** Ultra Short Pulse fiber laser produces sub 3 ps pulses with 25  $\mu\text{J}$  pulse energy delivered across its entire operational frequency range from 50 kHz to 2 MHz, producing up to 50 W of average power and extremely high peak powers up to 10 MW. Our monolithic-all-spliced-fiber design is “beyond state-of-the-art,” enabling an incredibly compact laser that is inherently more power efficient, reliable and robust than conventional bulk-rod or disk based DPSS USP lasers yet priced significantly lower than the industries legacy products. The novel design architecture together with our flexible control electronics provides conveniently short warm-up times and allows adjustment of both pulse energy and repetition rate without affecting the output beam parameters. Laser pulses with durations of just a few picoseconds create peak intensities so high that non-linear/multiphoton absorption takes place, resulting in an ultra-precise “cold” process with very small heat affect.

# YLPP-25-3-50-R

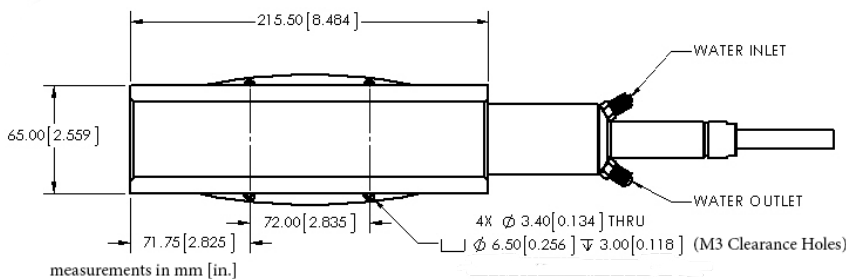
## Ytterbium Picosecond Fiber Laser

### Optical Characteristics

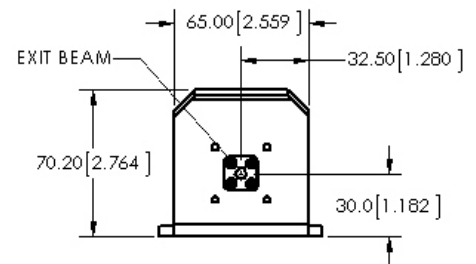
Wavelength, nm	1030
Mode of Operation	Pulsed
Average Power, W	50
Pulse Energy, $\mu$ J	25
Pulse Duration, ps	1-3 (2 Typ.)
Peak Power, MW	up to 10
Repetition Rate, kHz	50-2000
Beam Quality, $M^2$	<1.4 (1.2 Typ.)

### General Characteristics

Control Unit Dimensions (W x D x H), mm	448 x 580 x 132
Optical Head Dimensions (W x D x H), mm	65 x 216 x 70
Cooling	Water
Supply Voltage, Single-phase 50-60 Hz, VAC	100-240
Power Consumption, W	<300



Water-cooled Head



+1 (508) 373-1100; sales.us@ipgphotonics.com  
 +49 2736 44200; sales.europe@ipgphotonics.com (European Inquiries)

[www.ipgphotonics.com](http://www.ipgphotonics.com)

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MAX. AVERAGE OUTPUT POWER: 100 W  
 MAX. PEAK OUTPUT POWER: 50 MW  
 PULSE DURATION: 1-3 ps  
 PULSE REPETITION RATE: 50-2,000 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

The Power to Transform®