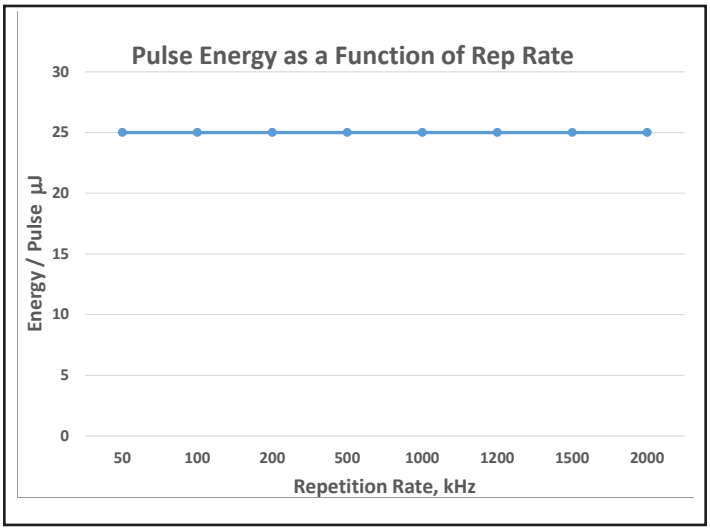
YLPP-25-1-50-R

Ytterbium Picosecond Fiber Laser



50 W, 1-3 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 µJ
- 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-25-1-50-R Ultra Short Pulse fiber laser produces sub 3 ps pulses with 25 µJ 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-25-1-50-R

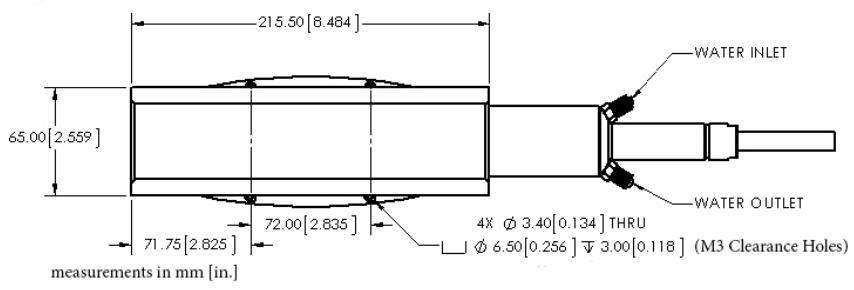
Ytterbium Picosecond Fiber Laser

Optical Characteristics

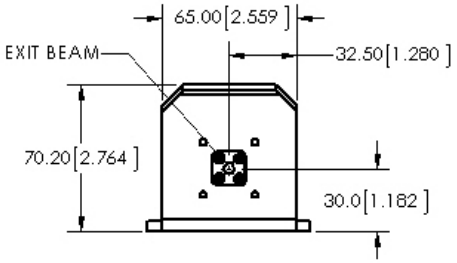
Wavelength, nm	1030
Mode of Operation	Pulsed
Average Power, W	50
Pulse Energy, µJ	25
Pulse Duration, ps	1-3 (2 Typ.)
Peak Power, MW	up to 10
Repetition Rate, kHz	50-2000
Beam Quality, M^2	<1.4 (1.2 Typ.)

General Characteristics

Control Unit Dimensions (W × D × H), mm	448 × 580 × 132
Optical Head Dimensions (W × D × 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



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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®