# YLS-U & YLS-CUT

## Ultra-Compact Fiber Laser for Metal Cutting

**Unmatched Reliability**

**YLS-CUT** lasers have been developed specifically for demanding cutting applications. Supplied in the smallest form factor available on the market, these lasers can be easily integrated within cutting machines. The lasers are packaged in a hermetically sealed cabinet containing an internal dryer, enabling the laser to be used in the harshest of production environments. The YLS-CUT incorporate the latest IPG technical improvements in the design of diode modules, fiber blocks, digital power supplies and digital control electronics, resulting in unparalleled reliability and increased control flexibility, stability and precision. The new control system allows integrated control of both laser and process subsystem. Industry-leading energy efficiency over 40% results in electrical cost savings adding up to many tens of thousands of dollars over lifetime of a laser. Hot redundancy ensures 100% up time with no change in power, record reliability and maintenance-free operation.

**YLS-U** series lasers are available up to 25 kW output power with a wide variety of fiber delivery options, starting at 50 µm core diameter. The YLS-U is the latest super-compact hermetic cabinet packaging in 1-12 kW power range incorporating all of the features and technology advancements of YLS-CUT series.

### FEATURES

- Output Power 1-25 kW
- Internal Dehumidifier
- Ultra-compact Size
- Optimized for 24/7 Cutting
- Excellent Beam Parameter Product
- Record Reliability
- Fiber Delivery 50, 100, 150 or 200 µm
- Energy Efficiency >40%

### APPLICATIONS

- 2D/3D Thin & Thick Metal Cutting
- Stainless and Mild Steel Cutting
- Processing Copper, Brass and Aluminum
- Processing Titanium

# YLS-U & YLS-CUT

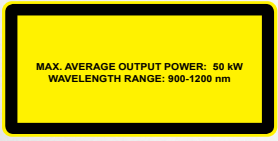
## Ultra-Compact Fiber Lasers for Metal Cutting

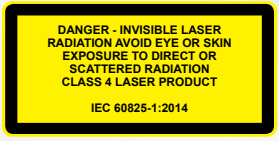
| Optical Characteristics | |
|---|---|
| Central Wavelength Range, nm | 1070 ±5 |
| Mode of Operation | CW/ Modulated |
| Modulation Frequency, kHz | 0-5 |
| Maximum Average Power*, kW | 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 14, 15, 20, 25 |
| Power Tunability, % | 10-100 |
| Power Stability**, % | ±2 |
| Output Fiber Core Diameter***, µm | 50, 100, 150, 200 |
| Beam Parameter Product, mm × mrad | <2.2 @ 50 µm, 2.0 typ., <4.0 @ 100 µm, 3.3 typ.,<br><6.0 @ 150 µm, 5.0 typ., <8.0 @ 200 µm, 6.0 typ. |

* Custom power levels are available. Please contact your IPG Representative.
** Over 4 hours, T=const
*** A direct feeding fiber terminating in either an HLC-8 (QBH-type) or LCA (QD-style) connector in standard lengths of up to 30 meters. Maximum delivery fiber length is 20 m @ 50 µm. Custom connectors and fiber length are available.

| General Characteristics | |
|---|---|
| YLS-U Cabinet Dimensions (W×D×H), mm | 1-3 kW: 430 × 804 × 568<br>4-6 kW: 430 × 804 × 702<br>7-12 kW: 430 × 804 × 900 |
| YLS-U Cabinet Weight, kg | 1-3 kW: <140<br>4-6 kW: <200<br>7-12 kW: <250 |
| YLS-CUT Cabinet Dimensions (W×D×H), mm | 1-5 kW: 780 × 804 × 556<br>6-10 kW: 1005 × 804 × 556<br>12-25 kW: 1005 × 804 × 806 |
| YLS-CUT Cabinet Weight, kg | 150-440 |
| Supply Voltage, 3-phase, VAC | 400-480 |
| Wall-plug Efficiency, % | >40 |

+1 (508) 373-1100;
IPGPhotonics.com/contact
**www.ipgphotonics.com**




**Legal notices:** All product information is believed to be accurate and is subject to change without notice. Information contained herein shall legally bind IPG only if it is specifically incorporated into the terms and conditions of a sales agreement. Some specific combinations of options may not be available. The user assumes all risks and liability whatsoever in connection with use of a product or its application. IPG, IPG Photonics, The Power to Transform and IPG Photonics' logo are trademarks of IPG Photonics Corporation. © 2022 IPG Photonics Corporation. **All rights reserved.**

1.1 R3 1/22