



YLS-U and YLS-CUT

Ultra-compact Fiber Lasers for Metal Cutting

NEW PRODUCT

The Smallest Form Factor
Industrial Fiber Lasers



Applications

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



Features

- ▶ Output Power 1-20 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
- ▶ Wall-plug Efficiency >40%
- ▶ High Peak Power Piercing Option
- ▶ Cost Effective Cutting System

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. The industry-leading wall-plug 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. The CUT series lasers are available up to 20 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 1-10 kW power range incorporating all of the features and technology advancements of YLS-CUT series. YLS-U Series lasers are also available with the High Peak Power (HPP) option enabling faster and cleaner piercing, increased quality of fine feature cutting and denser part nesting.

YLS-U and YLS-CUT

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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
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., <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.

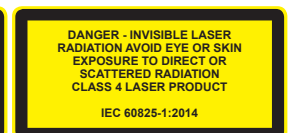
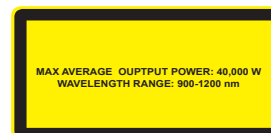
General Characteristics

YLS-U Cabinet Dimensions (W×D×H), mm	1-3 kW: 430 × 804 × 568 4-6 kW: 430 × 804 × 702 7-10 kW: 430 × 804 × 900
YLS-U Cabinet Weight, kg	1-3 kW: <140 4-6 kW: <200 7-10 kW: <250
LS-CUT Cabinet Dimensions (W×D×H), mm	1-5 kW: 780 × 804 × 556 6-10 kW: 1005 × 804 × 556 12-20 kW: 1005 × 804 × 806
YLS-CUT Cabinet Weight, kg	150-440
Supply Voltage, 3-phase, VAC	400-480
Wall-plug Efficiency, %	>40

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