



YLS Series

High Power Ytterbium Fiber Lasers

NEW PRODUCT

Up to 120 kW Output Power



Applications

- ▶ 2D/3D Thin and Thick Cutting
- ▶ Stainless and Mild Steel Cutting
- ▶ Processing Copper, Brass, Aluminum and Titanium
- ▶ Welding
- ▶ Drilling
- ▶ Cladding
- ▶ Brazing
- ▶ Heat Treating



Features

- ▶ Any Power up to 120 kW
- ▶ Excellent Beam Parameter Product
- ▶ Adjustable Mode Beam Option
- ▶ CW or Modulated
- ▶ QCW Peak Power Option
- ▶ Maintenance-free Operation
- ▶ Wall-plug Efficiency 45%
- ▶ Modular "Plug and Play" Design
- ▶ Compact, Rugged and Easy to Install
- ▶ Optional Affixed Chiller
- ▶ Hot Diode Redundancy
- ▶ Integrated Coupler or Beam Switch Option

IPG Photonics' **YLS Series** laser range from up to 120 kW output power, operating in CW or modulated modes. YLS lasers have a dynamic range from 10% to full power with no change in beam divergence or beam profile. The high brightness allows the use of long focal length processing lenses for vastly improved depth of field in applications such as remote welding. Housed in rugged air-conditioned and sealed cabinets, YLS systems are controlled by either digital I/O, analogue control or IPG's own LaserNet software with the additional option to add DeviceNet, Profibus or Ethernet interfaces. YLS systems are available with the widest range of fiber diameters, fiber lengths and a variety of multi-port beam switches, allowing the laser to be shared between workstations on a time or energy basis. IPG has in recent years developed a wide range of beam delivery optics that are tailored for use with YLS lasers in cutting and welding applications. These beam delivery optics include cutting and welding processing heads, 2D and 3D high power scan heads for remote welding and wobble welding heads, which provide a variety of beam path options to suit different application requirements, e.g., welding of poorly fitting parts.

YLS Series

High Power Ytterbium Fiber Lasers

Optical Characteristics	YLS-8000	YLS-10000	YLS-20000	YLS-40000	YLS-60000	YLS-120000
Wavelength, nm	1070 ±5					
Mode of Operation	CW/Modulated					
Modulation Frequency, kHz	0-5					
Max. Average Power*, kW	8	10	20	40	60	120
Power Tunability, %	10-100					
Power Stability, %	±1					
Feed Fiber Core Diameter**, μm	50	100	150	200	300	
Beam Parameter Product (Feed Fiber), mm × mrad	2	4	7	9	17	
Minimal Process Fiber Core Diameter***, μm	100	200	300	400	800	
Beam Parameter Product (Process Fiber), mm × mrad	3.5	6.5	12	13.0	17.0	48

* The power levels listed above are representative of selected models. Any power level in the 1-120 kW range is available.

** A direct feed fiber terminates in either an HLC (QBH-type) or LCA (QD-style) connector in standard lengths of up to 30 meters. Custom connectors and fiber lengths are available.

*** Larger core diameters are available upon request.

General Characteristics

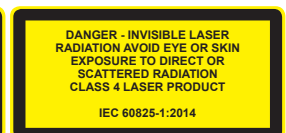
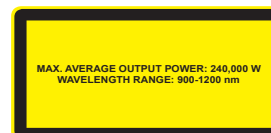
Weight, kg	350	500	750	1900	2200
Cooling	Water-cooled				
Supply Voltage, VAC 3-phase	400-480, 50/60 Hz				
Wall-plug Efficiency, %	>45%				

IPG offers Beam Delivery Accessories such as beam delivery fiber, beam couplers, shutters, switches, beam sharers, wobbling welding heads and 2D and 3D scanners for remote welding applications. These accessories can be purchased separately from the laser or installed internally prior to laser purchase. Please contact your IPG Sales Representative to discuss these options. Specified cabinet dimensions and weights are typical for models with feed fiber only. Integrating beam delivery accessories and process fibers will increase weight and may increase cabinet height.

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

www.ipgphotonics.com

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