Versatile Fiber Lasers for Welding

Integrated plug-and-play fibers for flexible metal processing solutions

The all-new nLIGHT® WFL-15000 integrates an optional fiber coupler or 2- or 4-channel beam switch with a high-power fiber laser. Durable and versatile, this laser was designed with trusted and durable components for high productivity solutions in welding, cladding, heat treating, brazing and other materials processing applications. Based on nearly two decades of high-power laser innovation, this fiber laser features the latest in optical technology, allowing for exceptional process range and, consistent part quality. Ergonomically designed to be simple and easy to use for quick fiber replacements and increased uptime.

Features

- **3-15kW**
  Wide range of power options to ensure the right solution for each application.

- **Optional Fiber Coupler or Switch**
  Integrated fiber-to-fiber coupler or 2- or 4-channel beam switch increases system capability.

- **Unparalleled Serviceability**
  Modular design simplifies repairs maximizing uptime.

- **Designed for Rugged Durability**
  Ensures continuous operation in harsh manufacturing environments.

- **Plug-and-Play Process Fibers**
  Optional process fibers with output sizes from 100um to 1mm with QD and QBH connectors.

- **Ergonomic Design**
  Designed based on input from users to support increased productivity.

*n*LIGHT

nLIGHT 3-15kW Welding Fiber Laser Specifications

Models	WFL-3000	WFL-4000	WFL-5000	WFL-6000	WFL-8000	WFL-10000	WFL-12000	WFL-15000
Optical Specifications								
Mode of Operation	CW/Modulated							
Polarization	Random							
Maximum Average Power	3kW	4kW	5kW	6kW	8kW	10kW	12kW	15kW
Power Tunability	5 – 100%							
Power Variation, 8-Hour	≤ 1%							
Modulation Frequency	≤ 20kHz							
Rise and Fall Times	≤ 10µs							
Feed Fiber Beam Quality	≤ 2 mm-mrad			≤ 5 mm-mrad				
Wavelength	1070 ± 10nm							
Electrical Specifications								
Supply Voltage	400 – 480VAC 3P+PE, 50/60Hz							
Control Interfaces, Standard	External hardware control, analog power control, analog monitors, Ethernet control, GUI, and API							
Control Interfaces, Optional	EtherCAT, EtherNet/IP, DeviceNet, Profinet, Profibus							
Mechanical Specifications								
Dimensions (W x D x H)	1004 × 804 × 1334mm							
Optical Fiber	Water-cooled fiber coupler, 2-channel or 4-channel beam switch (time sharing)							
Process Fibers	Length and core options available upon request, QBH and QD available							
Cooling Method	Water							
Environmental Specifications								
Operating Temperature[1]	+10 to +40°C							
Storage Temperature	-10 to +60°C							
Relative Humidity	10 to 80%							

[1] Non-condensing or with use of CDA.

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AVOID EYE OR SKIN EXPOSURE TO DIRECT OR SCATTERED RADIATION
CLASS 4 LASER PRODUCT