

HighLight FL Single Mode

Compact Single Mode High Power Fiber Laser

HighLight™ FL Single Mode products are a series of high brightness, high power lasers offering output of 500 W to 2.5 kW from a single mode, collimated fiber (output BPP ≤ 0.4 mm x mrad). Their combination of small focused spot size and high power density makes HighLight™ FL Single Mode lasers particularly well suited for applications such as remote welding and other scanner based configurations, welding using beam wobble, high speed cutting of thin sheet metal, and conductive welding of dissimilar materials.

Compact and robust HighLight™ FL Single Mode series lasers are specifically intended to deliver optimum efficiency, maximum flexibility and unmatched reliability in industrial applications. The use of field proven, reliable components, including our flexible industrial control unit (RCU), further facilitates integration, enhances reliability, and enables quick customization to the needs of a particular application.

FEATURES & BENEFITS

- Output power: 500 - 2,500 Watts
- Field-proven "all fiber" technology
- High wall plug efficiency
- Long life diode pumping modules on T-bars
- Inherently back reflection safe
- Industry leading power control for high process consistency
- Equipped with control unit for internet-accessible diagnostics and e-service
- Utmost compactness in this power class

APPLICATIONS

- Cutting
- Welding
- Surface Treatment
- Remote and Scanner-based Applications

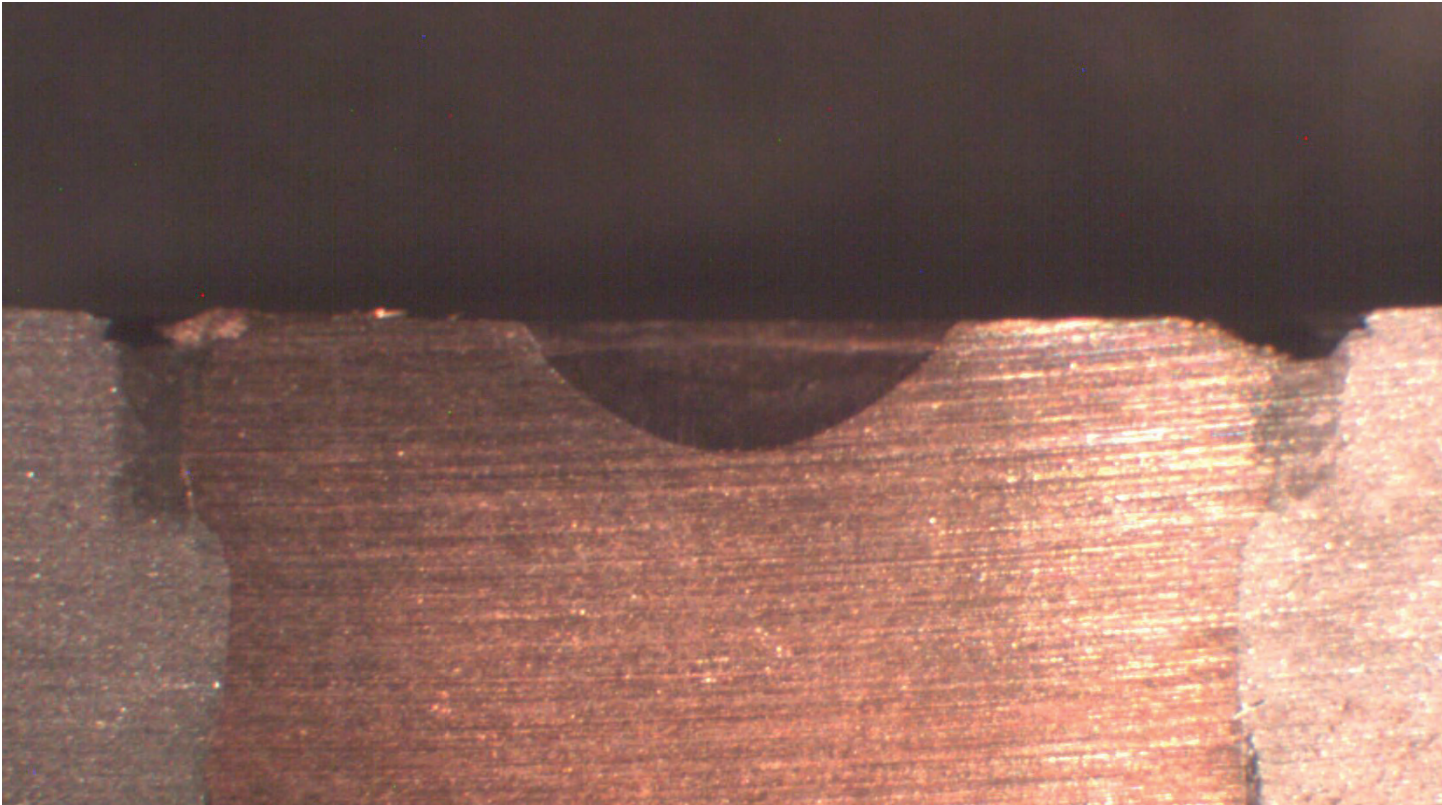
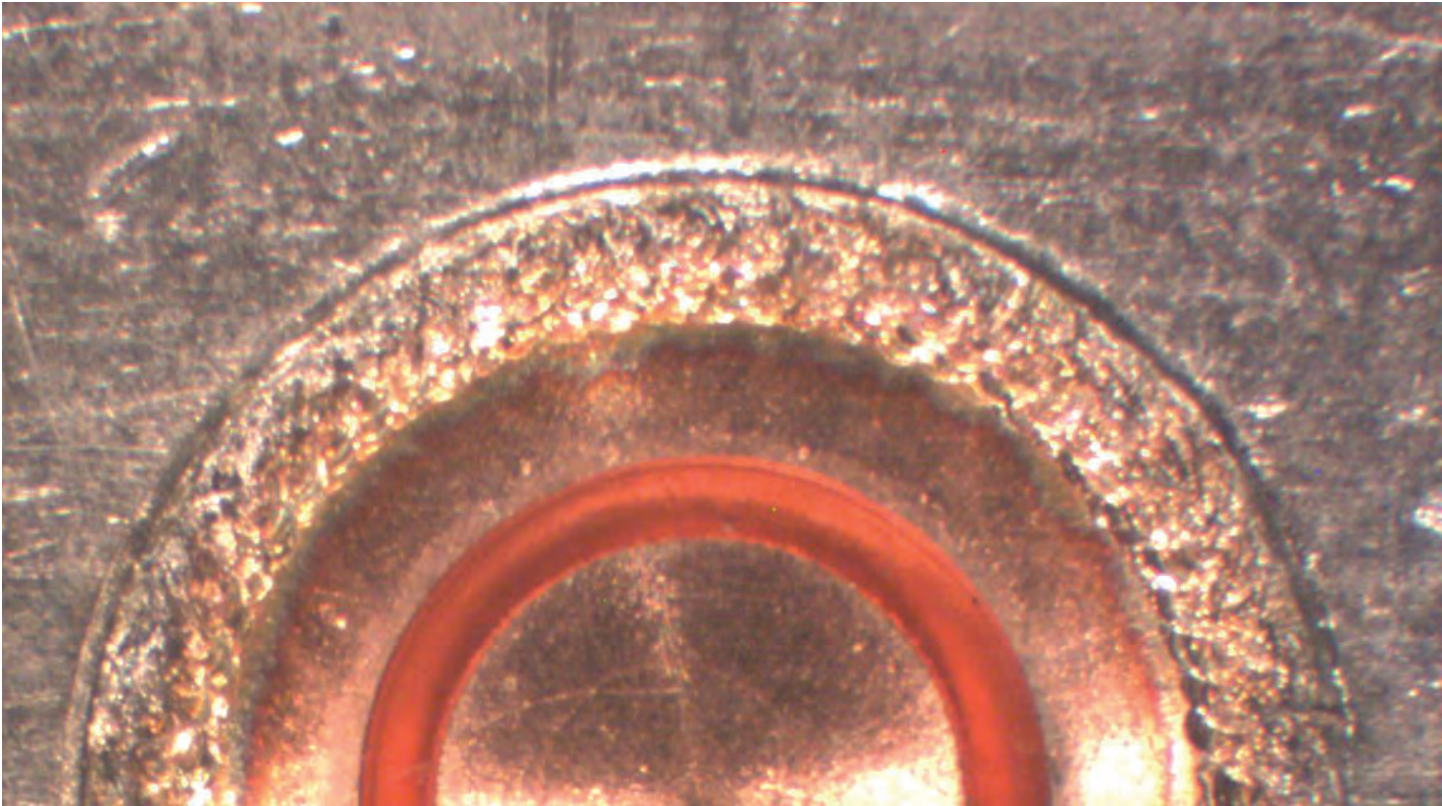


HighLight FL Single Mode Datasheet

SPECIFICATIONS	HighLight FL500CSM	HighLight FL750CSM	HighLight FL1000CSM	HighLight FL1500CSM	HighLight FL2000CSM	HighLight FL2500CSM
Nominal Power (W)	500	750	1000	1500	2000	2500
Power Range (%)	10 to 100					
Laser Beam Quality (BPP) at Collimator	≤ 0.4 mm x mrad					
Power Stability (%)	± 2					
Pulse Frequency Range	CW - 5 kHz					
Wavelength (nm)	1070 ± 10					
ELECTRICAL RATINGS						
Voltage	3 x 230 / 400 V ± 10% or 3 x 277 / 480 V ± 10%; 50/60 Hz; PE					
Connected Load (kVA)	2.1	2.9	3.6	5	6.6	7.2
Effective Power at Nominal Power (kW)	2	2.7	3.3	4.7	6.1	6.8
Max. Current Consumption at 400 V (A)	3.7; CCU: 4.2	4.9; CCU: 5.4	6.2; CCU: 6.7	8.7; CCU: 9.2	11.4; CCU: 1.9	12.5; CCU: 13
Fuses Type NH (A)	16				32	
COOLING						
Recommended Cooling Capacity* (kW)	≥ 2.4	≥ 3.2	≥ 4	≥ 5.6	≥ 7.3	≥ 8.1
Flow Rate (l/h)	≥ 1000; CCU Laser: 850; Optic: 150					
Temperature (°C)	25; CCU Laser: 25; Optics: 34					
Temperature Tolerance Range (°C)	± 1					
Max. Pressure (hPa)	6000					
Pressure Drop (hPa)	4000; CCU Laser: 4000; Optic: 3500					
FIBER DELIVERY SYSTEM						
Interface	QBH, QD					
Diameter (µm)	20					
Type	Step index fiber incl. RSY safety system					
Length (m)	8				5	
Accessories (options)	Collimators, Focussing optics, Cross-Jet					
DIMENSIONS & WEIGHTS						
Laser Dimension (L x W x H) (mm)	751 x 953 x 584; CCU: 751 x 983 x 584					
Laser Weight (kg)	< 140; CCU: < 155			< 150; CCU: < 165		
ENVIRONMENTAL CONDITIONS						
Ambient Temperature (°C)	5 - 40					
Humidity (°C)	Dewpoint < 24; (CCU: Dewpoint ≤ 34, other on request)					
CUSTOMER INTERFACE						
Digital Signals (V DC)	24					
Power Control (V DC)	0 to 10 (50 µs to 70 µs [Level] resp. a pulse period)					
Trigger Control (V)	Gate 24, 15, or 5; Frequency 15/5					
Laser Operating Elements	Pilot Laser / PC-control					
OPTIONS LASER						
	Fieldbus-Interface, Scanner processing solution, Customer specific color, Casters, Climate Control Unit (CCU), Handheld (Touch screen)					

* The recommended cooling capacity covers maximum power dissipation due to diode degradation and 100% laser power absorbed at an internal or external beam dump.

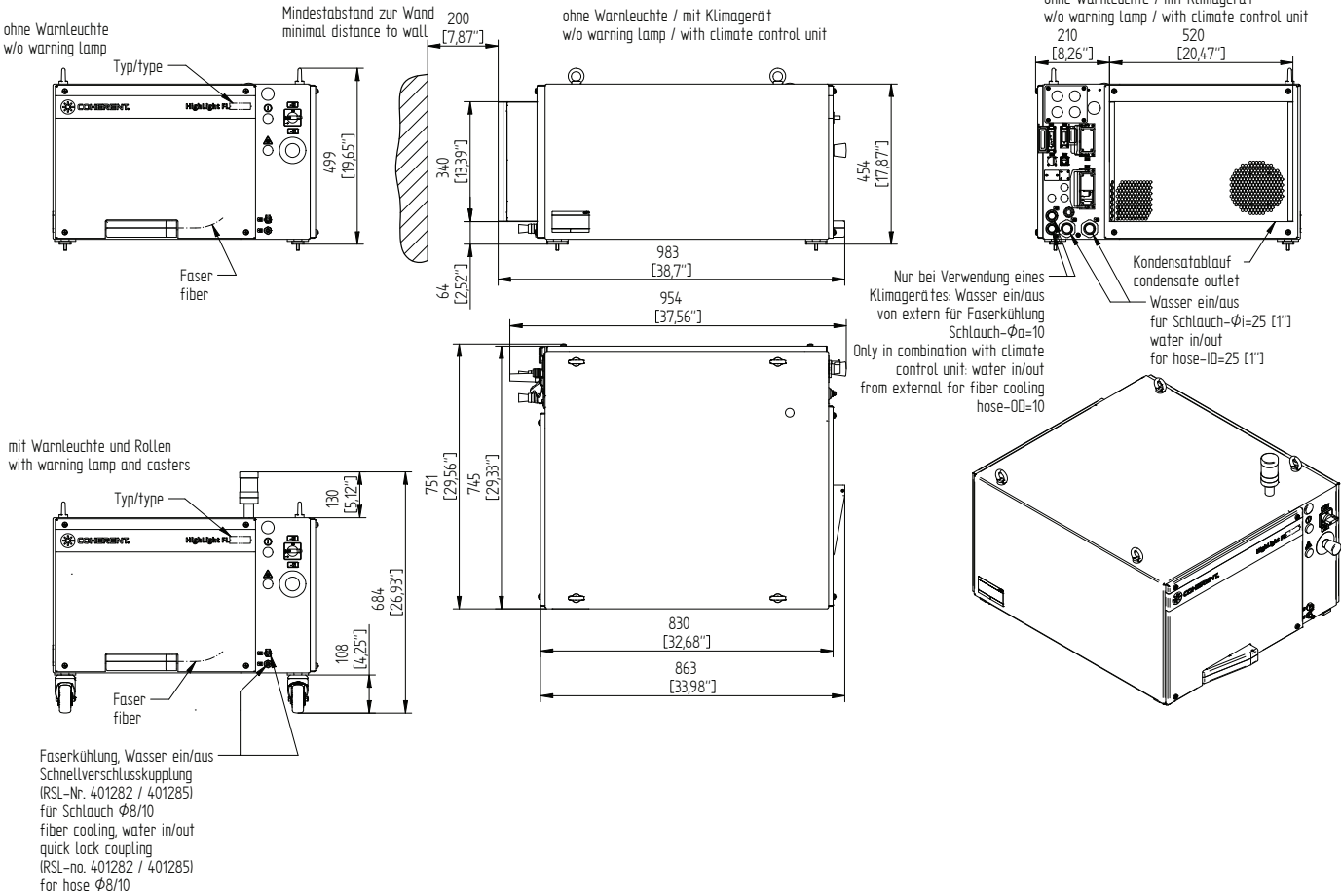
** An additional flow rate of 500l/h is recommended for the use of an external power meter.



MECHANICAL SPECIFICATIONS

HighLight FL500CSM - HighLight FL2500CSM

Design with Mounting Points (Standard)
Design with Climate Control Unit (Optional)
Design with Casters (Optional)



Coherent, Inc.,
 5100 Patrick Henry Drive Santa Clara, CA 95054
 p. (800) 527-3786 | (408) 764-4983
 f. (408) 764-4646

tech.sales@Coherent.com www.Coherent.com

Coherent follows a policy of continuous product improvement. Specifications are subject to change without notice.
 Coherent offers a limited warranty for all HighLight Lasers. For full details of this warranty coverage, please refer to the Service section at www.Coherent.com or contact your local Sales or Service Representative.
 Printed in the U.S.A. MC-022-18-0M0818 Copyright ©2018 Coherent, Inc.



Coherent-Rofin industrial lasers are designed in strict accordance with the respective safety regulations. We certify that each laser manufactured by our company complies with FDA Radiation Performance Standards, 21 CFR Subchapter J and with IEC 60825. Warning labels as shown in the figure appear on each Coherent-Rofin laser to indicate the respective classification.