



HighLight DL HP Series

High Power Diode Laser

Coherent HighLight™ DL HP series products are high power (3 kW to 8 kW), fiber delivered, industrial diode laser systems that offer unmatched convenience and economy for metal processing applications such as large area cladding, heat treating and brazing. Ease of use in HighLight DL HP lasers is enhanced because their highly reliable, conduction-cooled diodes do not require deionized cooling water. Additionally, these lasers support plug-and-play fiber exchange by the user, and their web interface enables simplified access and control through any device with a web browser.

A wide range of options and accessories are available for HighLight DL HP Series products to provide flexibility for integration and to facilitate their use in a variety of settings. For example, climate control of the laser enclosure allows operation in high humidity environments.

FEATURES & BENEFITS

- Output power: 3,000 to 8,000 Watts
- Fiber-coupled system
- Cost and energy efficient
- Modular concept

APPLICATIONS

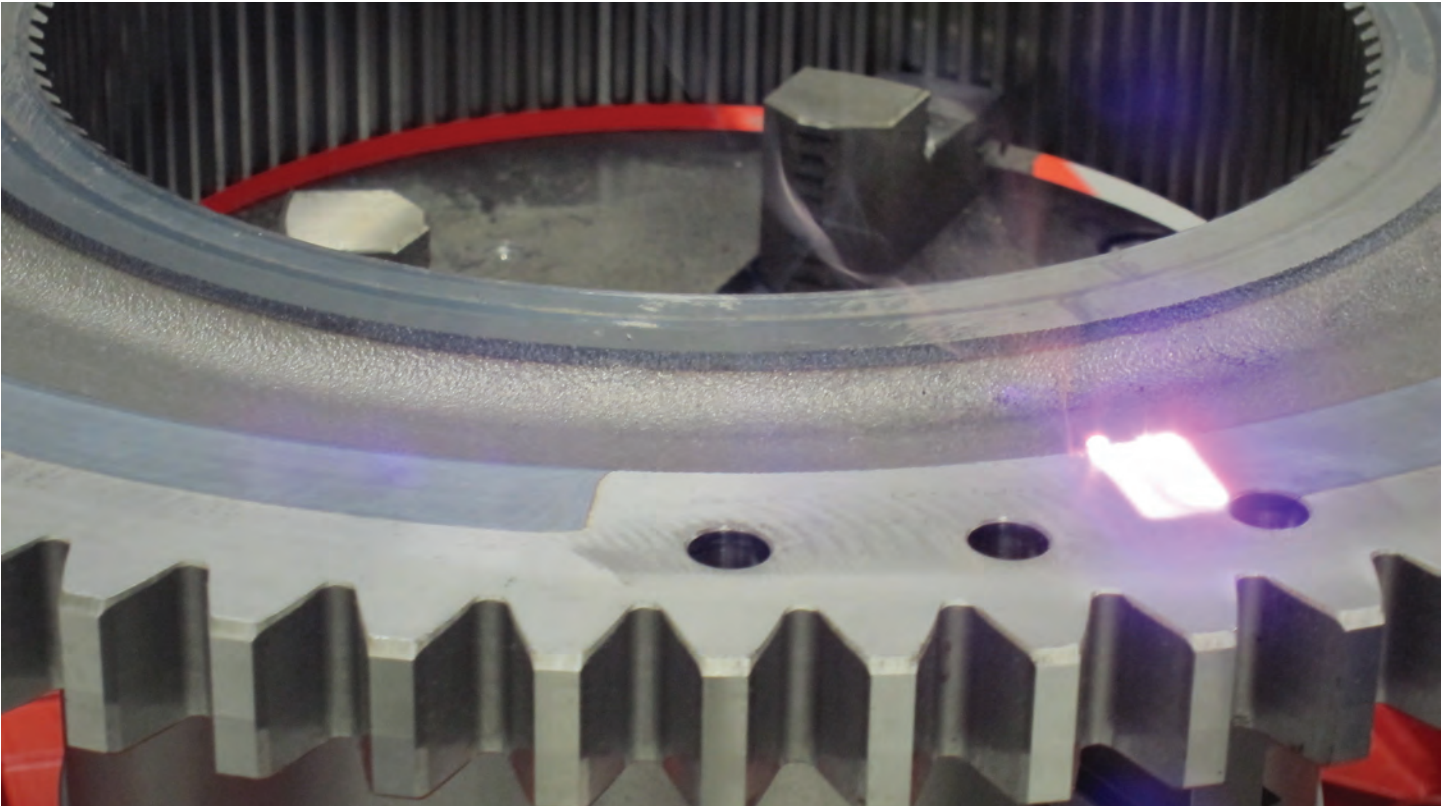
- Brazing
- Cladding
- Hardening
- Surface treatment
- 3D additive manufacturing



SPECIFICATIONS	HighLight DL3000HP	HighLight DL4000HP	HighLight DL5000HP	HighLight DL6000HP	HighLight DL8000HP
Nominal Power (Wcw)	3000	4000	5000	6000	8000
Power Range (%)	10 to 100				
Laser Beam Quality (BPP)	100 mm x mrad				
Power Stability	±2% over 24 h (cooling water ≤ ±1K)				
Pulse Frequency Range	Laser ON signal: 1kHz Analog modulation: 600Hz				
Wavelength (nm)	980 ± 10		940 & 980 ± 10		
ELECTRICAL RATINGS					
Voltage	3x AC 230/400V ±10%; 50/60 Hz; PE or 3x AC 277/480V ±10%; 50/60 Hz; PE				
Connected Load (kVA)	approx. 9	approx. 12	approx. 15	approx. 19	approx. 24
Effective Power at Nominal Power (kW)	approx. 8	approx. 11	approx. 14	approx. 18	approx. 23
Max. Current Consumption at 400 V (A)	<16	<20	<24	<27	<35
Fuses Type NH (A)	20	25	32	32	50
COOLING					
Recommended Cooling Capacity* (kW)	8	10	12	18	18
Temperature (°C)	22; CCU Laser: 22; Optic: 35				
Temperature Tolerance Range (°C)	± 1				
Flow rate (l/min)	45; CCU** Laser: 20; Optics: 25	47; CCU** Laser: 22; Optics: 25	55; CCU** Laser: 25; Optics: 30	60; CCU** Laser: 30; Optics: 30	65; CCU** Laser: 35; Optics: 20
Max. Pressure (bar)	<6				
Pressure Drop (bar)	<2; CCU** Laser: <2.5; Optic: <4				
Connectors laser cooling circuit	2x 1" thread				
Connectors ptics cooling circuit	2x ¾" thread				
FIBER DELIVERY SYSTEM					
Interface	QBH, LLK-HP or QD				
Diameter (µm)	1000				
Numerical Aperture	NA 0.2				
Length (m)	<35				
Accessories (options)	Processing heads for cladding / welding / heat treatment				
DIMENSIONS & WEIGHTS					
Laser Dimension (L x W x H) (mm)	~1040 x ~850 x ~1570				
Laser Weight (kg) without cooling water	< 370; CCU**: < 400				
ENVIRONMENTAL CONDITIONS					
Ambient Temperature (°C)	+5 to +40				
Humidity (°C)	Dewpoint < 19; CCU**: Dewpoint ≤ 32				
CUSTOMER INTERFACE					
Digital Signals (V DC)	24				
Power Control (V DC)	0 to 10, 600Hz max. modulation frequency				
Ethernet	For control via PC				
OPTIONS LASER					
	Bus-Interface (CAN, ProfiNet, ...)				

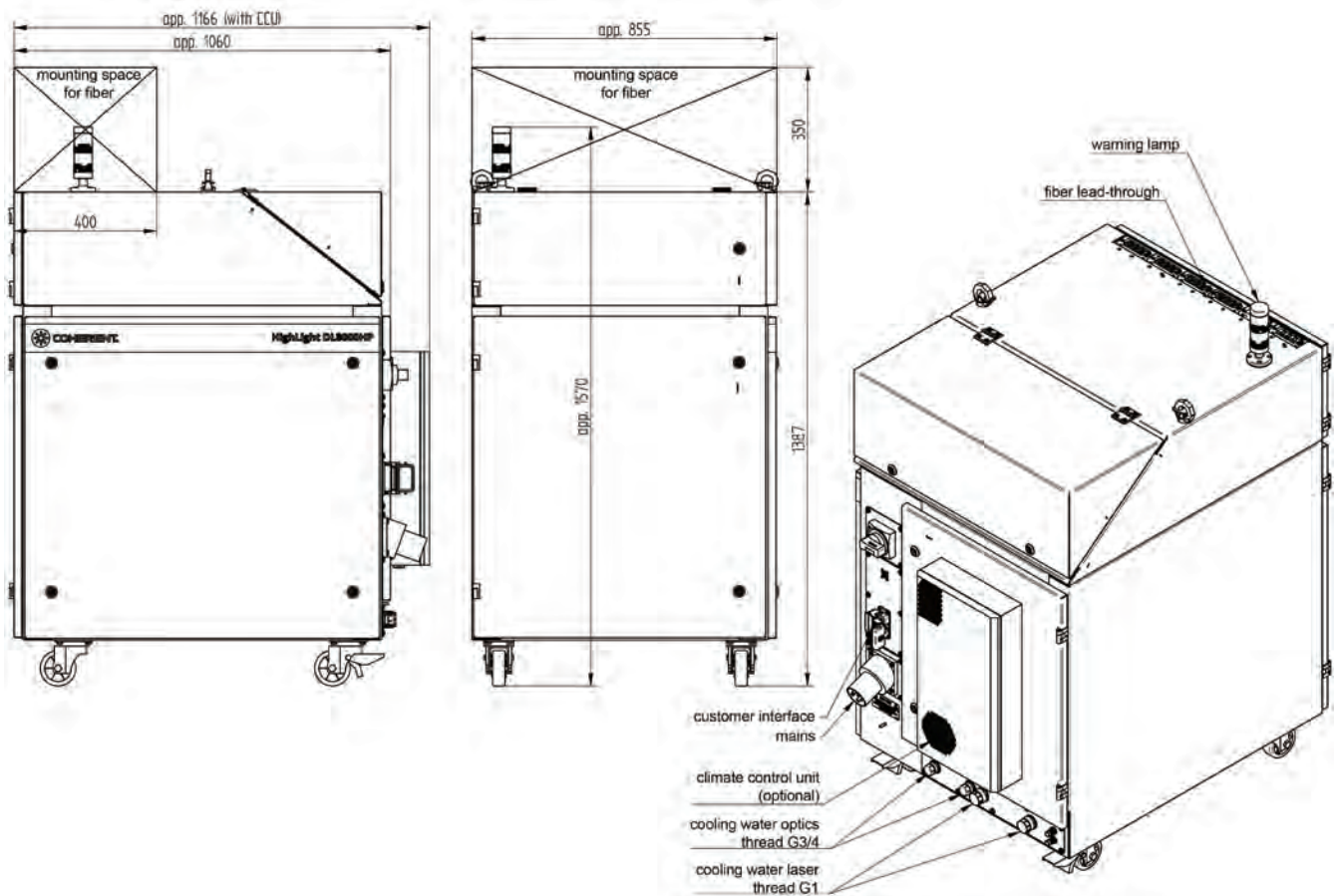
* The recommended cooling capacity covers maximum power dissipation due to diode degradation and 100% laser power absorbed at an internal or external beam dump.

** CCU = Climate Control Unit



MECHANICAL SPECIFICATIONS

HighLight DL3000HP - HighLight DL8000HP



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DANGER
 VISIBLE AND/OR INVISIBLE LASER RADIATION
 AVOID EYE OR SKIN EXPOSURE TO DIRECT OR SCATTERED RADIATION

MODEL: HighLight DL8000HP
DIODE LASER
 MAXIMUM OUTPUT: 1500 WATTS CW
 at wavelength in the range of 640-850 nm
 CLASS IV LASER PRODUCT

ALIGNMENT LASER DIODE INSTALLED
 CLASS III LASER RADIATION ALSO EMITTED
 AVOID DIRECT EYE EXPOSURE
 MAXIMUM OUTPUT: 500W CW / WAVELENGTH: 635 - 675 nm

4 x 620 x 570 mm
 P = 3.0 kW

Wavelength: 640-850 nm
 Continuous Output: 1500 W
 Max. Pulse Output: 1000 W
 Pulse Duration: <math>< 100 \mu s</math>

Laser radiation
 Avoid eye exposure to direct radiation!
 Class IV Laser product
 IEC 60825-1:2014

Invisible laser radiation
 Avoid eye or skin exposure to direct or scattered radiation!
 Class IV Laser product
 IEC 60825-1:2014

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-027-18-0M0818 Copyright ©2018 Coherent, Inc.

Coherent-Dilas 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.