

# 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 lasers 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 and Benefits

- Output power: 3000 to 8000 Watts
- Fiber-coupled system
- Cost and energy efficient
- Modular concept

## Applications

- Brazing
- Cladding
- Hardening
- Surface Treatment
- 3D Additive Manufacturing



## SPECIFICATIONS

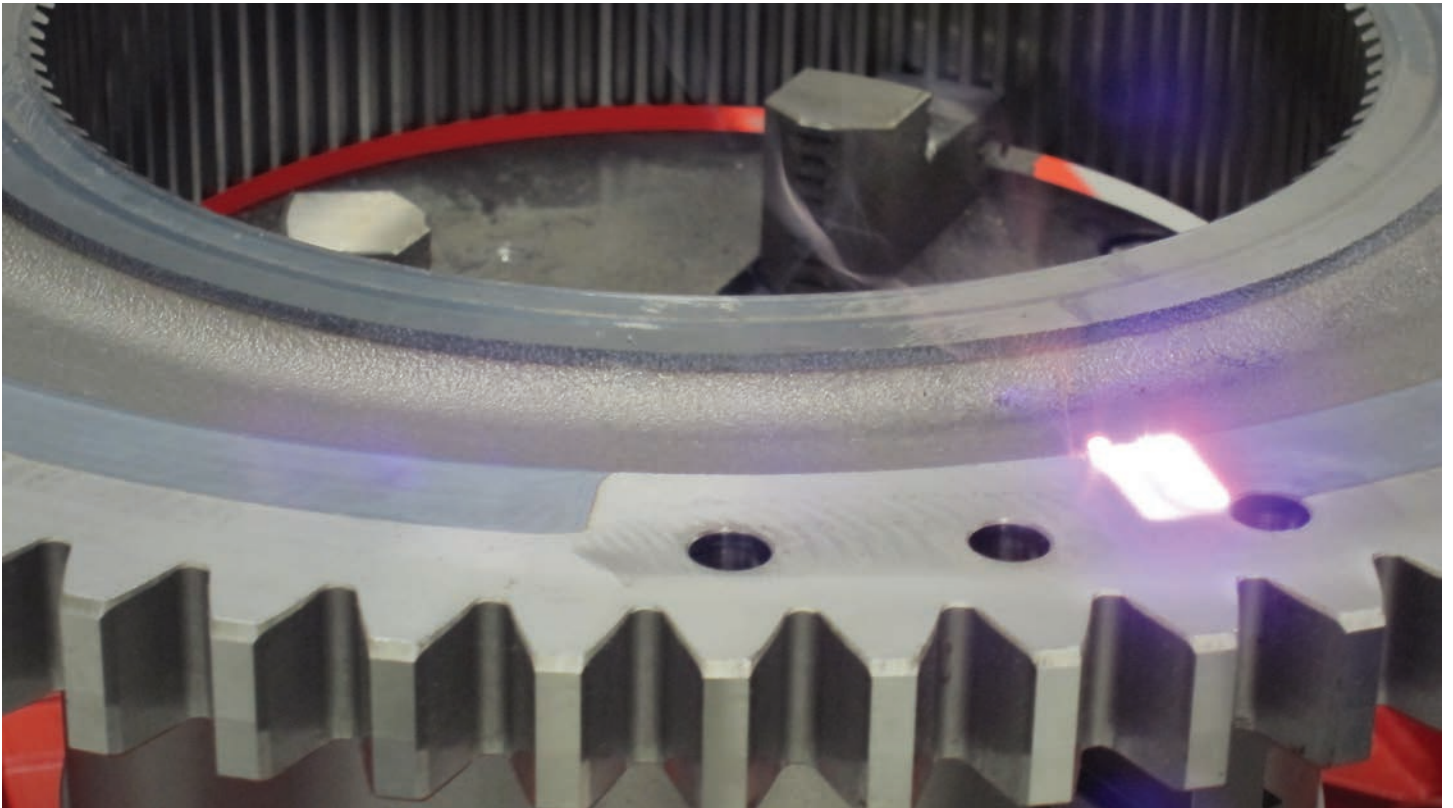
	HighLight DL5000HP	HighLight DL6000HP	HighLight DL8000HP
Nominal Power, CW (W)	5000	6000	8000
Power Range (%)	10 to 100		
Laser Beam Quality (BPP)	100 mm x mrad		
Power Stability	±2% over 24 h (cooling water ≤±1 K)		
Pulse Frequency Range	Laser ON signal: 1 kHz Analog modulation: 600 Hz		
Wavelength (nm)	980 and 1020 ±10		
<b>ELECTRICAL RATINGS</b>			
Voltage	3x AC 230/400 V ± 10 %; 50/60 Hz; PE or 3x AC 277/480 V ± 10 %; 50/60 Hz; PE		
Connected Load (kVA)	~14	~16.7	~22.2
Effective Power at Nominal Power (kW)	~14	~18	~23
Max. Current Consumption at 400 V (A)	<26.5	<32	<42.5
Fuses Type NH (A)	63	63	63
<b>COOLING</b>			
Recommended Cooling Capacity <sup>1</sup> (kW)	12	15	18
Temperature (°C)	22; CCU Laser: 22; Optics: 35		
Temperature Tolerance Range (°C)	Laser: ±1; Optics: ±2.5		
Flow Rate (l/min)	60; CCU <sup>2</sup> Laser: 30; Optics: 30	65; CCU <sup>2</sup> Laser: 35; Optics: 30	75; CCU <sup>2</sup> Laser: 45; Optics: 30
Max. Pressure (bar)	<6		
Pressure Drop (bar)	<2.5; CCU <sup>2</sup> Laser: <4.5; Optic: <5		
Connectors Laser Cooling Circuit	2x 1" thread		
Connectors Optics Cooling Circuit	2x ½" thread		
<b>FIBER DELIVERY SYSTEM</b>			
Interface	QBH, or QD		
Diameter (µm)	1000		
Numerical Aperture (NA)	NA 0.2		
Length (m)	<35		
Accessories (options)	Processing heads for cladding / welding / heat treatment		
<b>DIMENSIONS &amp; WEIGHTS</b>			
Laser Dimension (L x W x H) (mm)	~1040 x ~850 x ~1570		
Laser Weight; w/o Cooling Water (kg)	<400		
<b>ENVIRONMENTAL CONDITIONS</b>			
Ambient Temperature (°C)	+5 to +40		
Humidity/Condensation	Dewpoint <19; CCU <sup>2</sup> : Dewpoint ≤32		
<b>CUSTOMER INTERFACE</b>			
Digital Signals (V DC)	24		
Power Control (V DC)	0 to 10,600 Hz max. modulation frequency		
Ethernet	For control via PC		
<b>OPTIONS LASER</b>			
	Bus-Interface (CAN, EtherCAT)		

<sup>1</sup> The recommended cooling capacity covers maximum power dissipation due to diode degradation and 100% laser power absorbed at an internal or external beam dump.

<sup>2</sup> CCU = Climate Control Unit.

# HighLight DL-HP Series

High Power Diode Laser

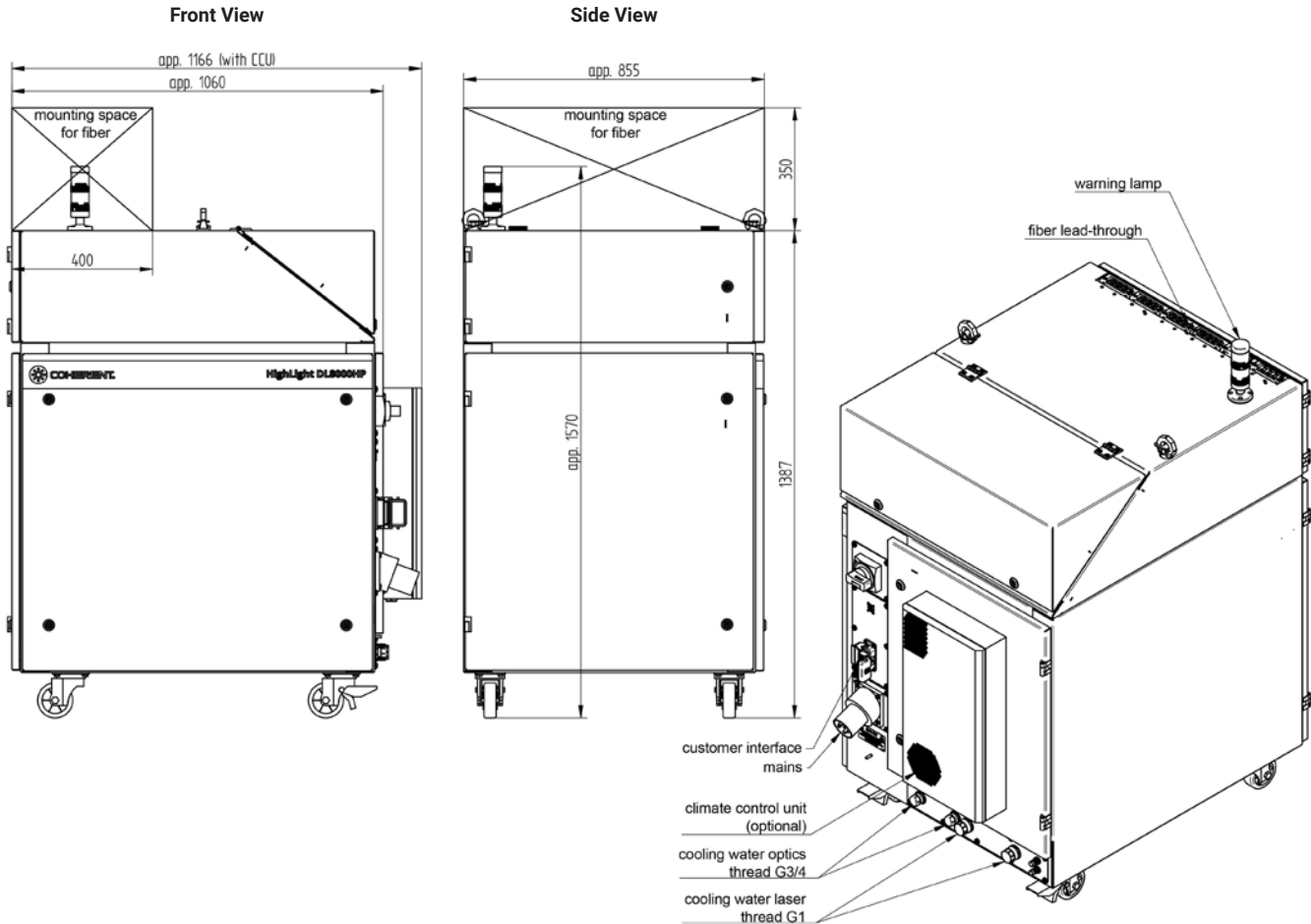


# HighLight DL-HP Series

High Power Diode Laser

## MECHANICAL SPECIFICATIONS

HighLight DL3000HP - HighLight DL8000HP



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](http://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](http://www.coherent.com) or contact your local Sales or Service Representative.

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.

MC-027-18-0M0522Rev.A Copyright ©2022 Coherent, Inc.

