

HighLight DL-HP Series

High Power Diode Laser

Coherent HighLight™ DL-HP series products are high-power (5 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

- Output power: 5000 to 8000 Watts
- Fiber-coupled system
- Cost and energy efficient
- Modular concept

APPLICATIONS

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

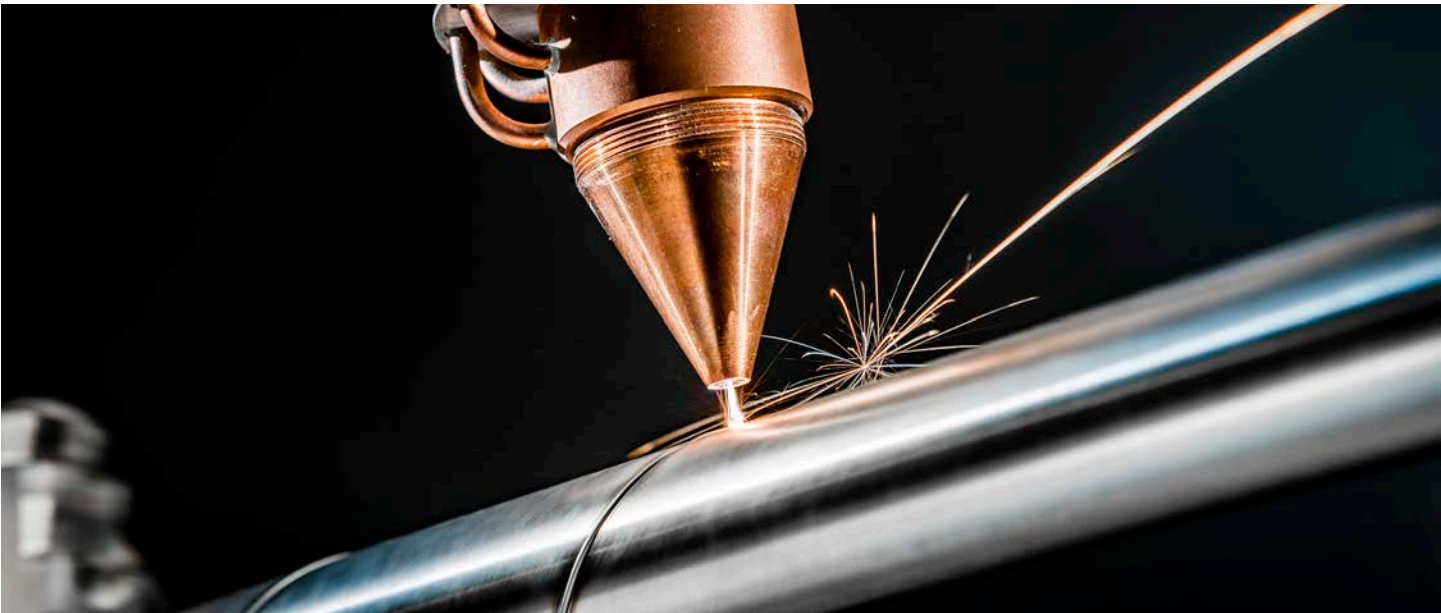
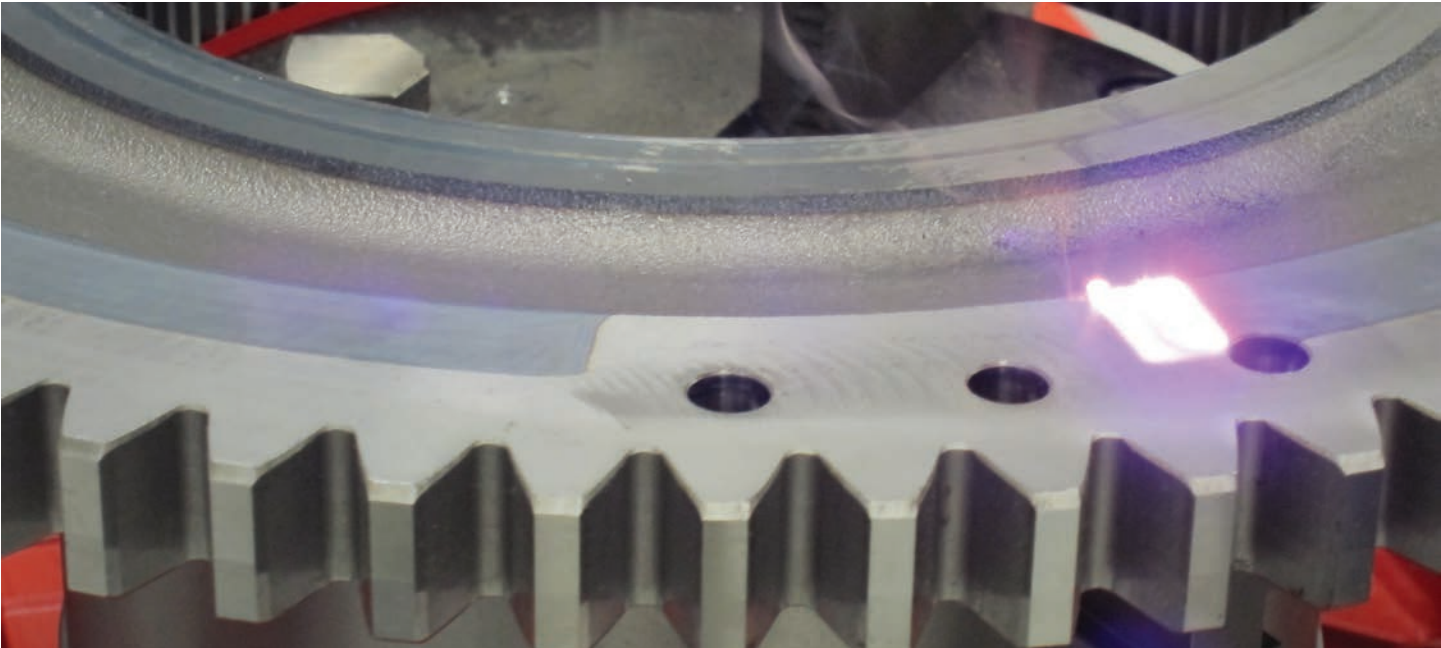
HighLight DL-HP Series

Specifications ¹	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		
Electrical Ratings			
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		
Cooling			
Recommended Cooling Capacity ¹ (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 ² Laser: 30; Optics: 30	65; CCU ² Laser: 35; Optics: 30	75; CCU ² Laser: 45; Optics: 30
Max. Pressure (bar)	<6		
Pressure Drop (bar)	<2.5; CCU ² Laser: <4.5; Optic: <5		
Connectors Laser Cooling Circuit	2x 1" thread		
Connectors Optics Cooling Circuit	2x ½" thread		
Fiber Delivery System			
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		
Dimensions and Weights			
Laser Dimension (L x W x H) (mm)	~1040 x ~850 x ~1570		
Laser Weight; w/o Cooling Water (kg)	<400		
Environmental Conditions			
Ambient Temperature (°C)	+5 to +40		
Humidity/Condensation	Dewpoint <19; CCU ² : Dewpoint ≤32		

- Notes:
1. The recommended cooling capacity covers maximum power dissipation due to diode degradation and 100% laser power absorbed at an internal or external beam dump.
 2. CCU = Climate Control Unit.

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Customer Interface			
Digital Signals (V DC)	24		
Power Control (V DC)	0 to 10,600 Hz max. modulation frequency		
Ethernet	For control via PC		
Options Laser			
	Bus-Interface (CAN, EtherCAT)		



Mechanical Specifications

HighLight DL5000HP/HighLight DL6000HP/HighLight DL8000HP

