



HighLight DD Series

High Power Direct-Diode Industrial Laser System

The HighLight DD-Series direct-diode lasers from Coherent delivers both high power and an increased range of “smart” output beam shapes, making it the ideal source for laser heat treating, cladding, and welding applications – all at faster speeds, greater deposition rates and larger areas.

When configured with the pressurized/gravity feed powder nozzles from Coherent, the HighLight DD-Series lasers enable high deposition rate cladding or larger spot sizes for heat treating.

The performance, energy efficiencies, and low maintenance of the HighLight DD-Series makes it the top choice for industrial materials processing applications.



FEATURES & BENEFITS

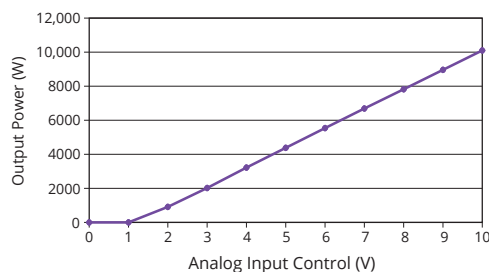
- Systems up to 10 kW (CW) at 976 nm
- High-power free space beam for a large working distance (~275 mm)
- Industrial, compact laser head with easily interchangeable beam shape options
- Mobile control panel, remote diagnostics, aiming beam and pyrometer process control options
- >50% wallplug efficient
- Cladding nozzle
- Heat treating accessories

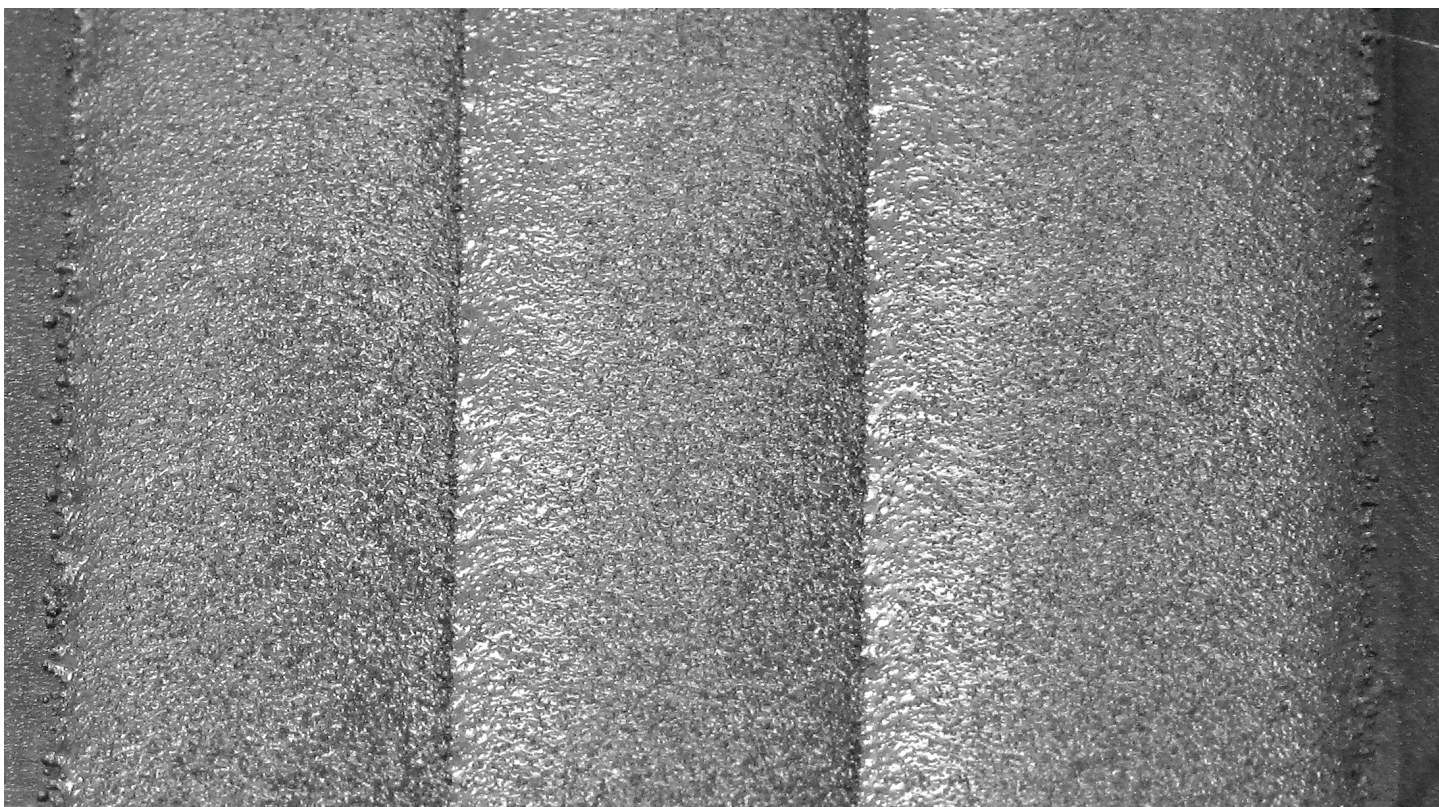
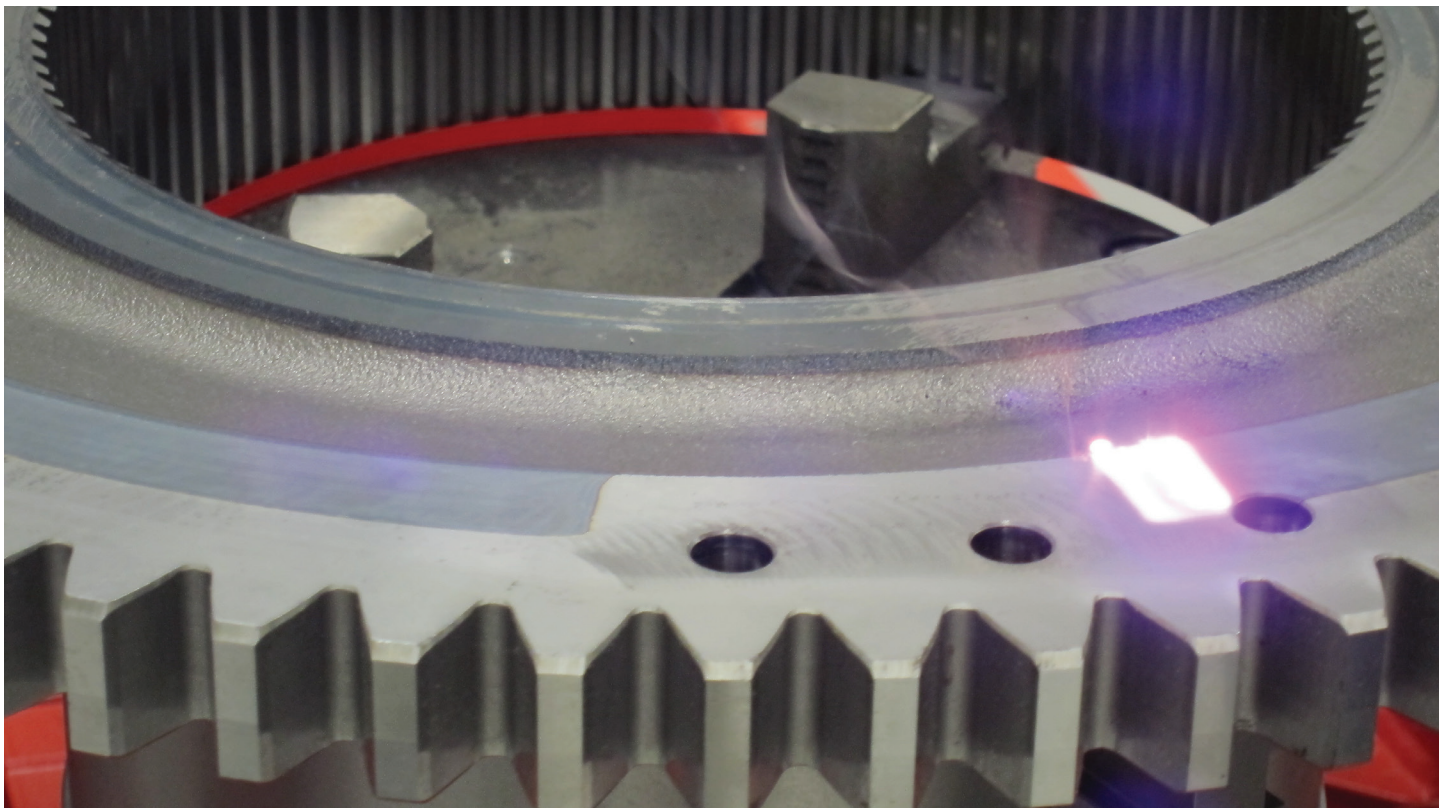
APPLICATIONS

- High Deposition Rate Cladding
- Small-to-Large Area Heat Treating
- Hermetic Welding

SYSTEM SPECIFICATIONS	HighLight DD5000	HighLight DD10000
Nominal Power (cw)	5,000	10,000
Wavelength (nm)	976	
Power Stability	≤2% / h	
Working Distance	275 mm (10.8 in.)	
Maximum Repetition Rate (Hz)	300	
Rise/Fall Time (ms)	1	
Line Beam Shape Options (mm) (nominal, multi mode)	4 5 6 12 18 24 30	6 12 18 24 30 36
Line Beam Width Expansion Options (mm)	1 mm to 2, 3, 4, 5, 6, 8, 12 mm	
MECHANICAL SPECIFICATIONS		
Laser Head Dimensions (H x W x D)	283 x 190 x 201 mm (11.1 x 7.5 x 7.9 in.)	
Laser Control Unit Dimensions (H x W x D)	1360 x 586 x 850 mm (53.5 x 23.1 x 33.5 in.)	
Chiller Dimensions (H x W x D)	2005 x 874 x 1541 mm (78.9 x 34.4 x 60.7 in.)	2005 x 874 x 1872 mm (78.9 x 34.4 x 37.7 in.)
Laser Head/Beam Shape Module Weight	23 kg (50 lbs.)	
Laser Control Unit (LCU) Weight	~210 kg (420 lbs.)	250 kg (550 lbs.)
Chiller Weight	~500 kg (1100 lbs.)	~600 kg (1320 lbs.)
ELECTRICAL REQUIREMENTS		
Operating Voltage (VAC)	400/460 ±10% (model dependent)	
Frequency (Hz)	47 to 63	
Maximum Current Draw (A)	50/40	80/70
DUAL LOOP CHILLER (DEIONIZED/DISTILLED)		
Chiller Cooling Capacity (kW)	>10/10	>16/14
Chiller Water Temp. (°C)	25/25 ±1	
Chiller Flow Rate (l/min.)	21/21	42/42
Chiller Water Pressure (psi)	65/50	
Chiller Operating Voltage (VAC)	400/460 (±10%)	
Chiller Operating Frequency (Hz)	50/60	
Chiller Max. Current Draw (A)	25	29
ENVIRONMENTAL CONDITIONS		
Purge Gas	<1 l/min. CDA	
Operating Temperature	5 to 45°C (41 - 113°F)	
Storage Temperature (drained and purged)	-20 to 65°C (-4 to 149°F)	
Operating Humidity (%)	10 to 80, non-condensing	

HighLight DD10000
PIV Curve (typical)

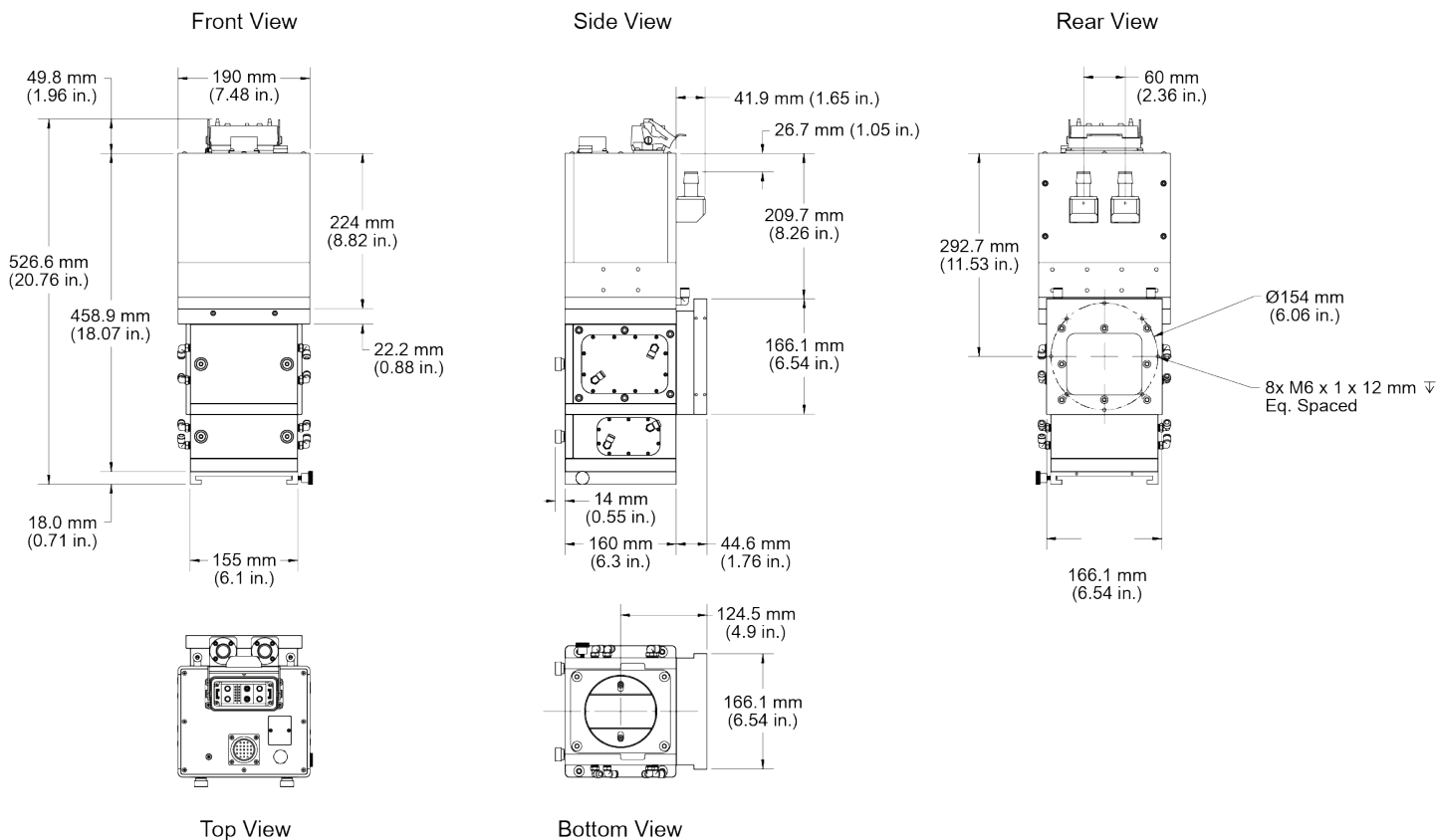




MECHANICAL SPECIFICATIONS

HighLight DD5000 - DD10000

Mechanical Specifications



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

DANGER

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

MODEL: HighLight DL10000DD
DIODE LASER
 MAXIMUM OUTPUT: 1000 WATTS CW
 at wavelength in the range of 930 nm
 CLASS IV LASER PRODUCT

ALIGNMENT LASER DIODE INSTALLED
 CLASS 3R LASER RADIATION ALSO EMITTED
 AVOID DIRECT EYE EXPOSURE
 MAXIMUM OUTPUT: 5mW CW / WAVELENGTH: 645 - 665 nm

$\lambda = 645 - 665 \text{ nm}$
 $P = 5 \text{ mW}$

Laser radiation
 Avoid eye exposure to direct radiation
 Class 3R Laser product
 IEC 60825-1:2015

Wave Length: 930 nm
 Continuous Output P_o: 1000 W
 Max. Pulse Duration P_o: 10000 μ s
 Pulse Duration: 1 μ s - 10 ms

Invisible laser radiation
 Avoid eye or skin exposure to direct or scattered radiation
 Class IV Laser product
 IEC 60825-1:2015

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-028-19-0M0819 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.