

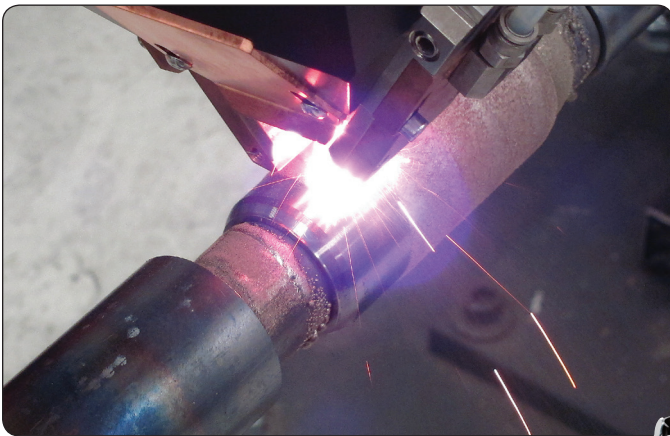
HighLight D-Series

High-Power Direct-Diode Industrial Laser System

Coherent's HighLight D-Series direct-diode lasers delivers both high power and an increased range of "smart" output beam shapes, making it the ideal source for laser heat treating and additive manufacturing processes, cladding, and welding applications—all at faster speeds, greater deposition rates and larger areas.

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

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



Superior Reliability & Performance

HighLight D-Series Features:

- **Systems up to 10 kW at 975 nm**
- **Optimized for cladding, heat treating, and welding applications**
- **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**
- **>45% wallplug efficient**
- **Cladding nozzle**
- **Heat treating accessories**

HighLight D-Series Applications:

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

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System Specifications	HighLight 10000D	HighLight 8000D	HighLight 4000D
Output Power (W)	≥10,000	≥8000	≥4000
Wavelength (nm)		975 ±10	
Power Stability (%/hour)		<2	
Working Distance		275 mm (10.8 in.)	
Maximum Repetition Rate (Hz)		300	
Minimum Pulse Width (ms)		3	
Line Beam Shape Options (mm) (nominal)	6 12 18 24 30 36	6 12 18 24 30 36	4 5 6 12 18 24 30
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 1872 mm (78.9 x 34.4 x 37.7 in.)	2005 x 874 x 1872 mm (78.9 x 34.4 x 37.7 in.)	2005 x 874 x 1541 mm (78.9 x 34.4 x 60.7 in.)
Laser Head/Beam Shape Module Weight	23 kg (50 lbs.)		
Laser Control Unit (LCU) Weight	250 kg (550 lbs.)	250 kg (550 lbs.)	~210 kg (420 lbs.)
Chiller Weight	~600 kg (1320 lbs.)	~600 kg (1320 lbs.)	~500 kg (1100 lbs.)

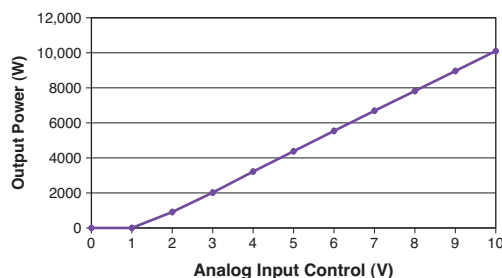
Facilities Requirements

Electrical			
Operating Voltage (VAC)		400/460 ±10% (model dependent)	
Frequency (Hz)		47 to 63	
Maximum Current Draw (A)	80/70	70/60	50/40
Dual Loop Chiller (Deionized/Distilled)			
Chiller Cooling Capacity (kW)	>16/14	>14/12	>10/10
Chiller Water Temp. (°C)		25/25 ±1	
Chiller Flow Rate (l/min.)	42/42	39/39	20/20
Chiller Water Pressure (psi)		65/50	
Chiller Operating Voltage (VAC)		400/460 (±10%)	
Chiller Operating Frequency (Hz)		50/60	
Chiller Max. Current Draw (A)	29	29	25

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

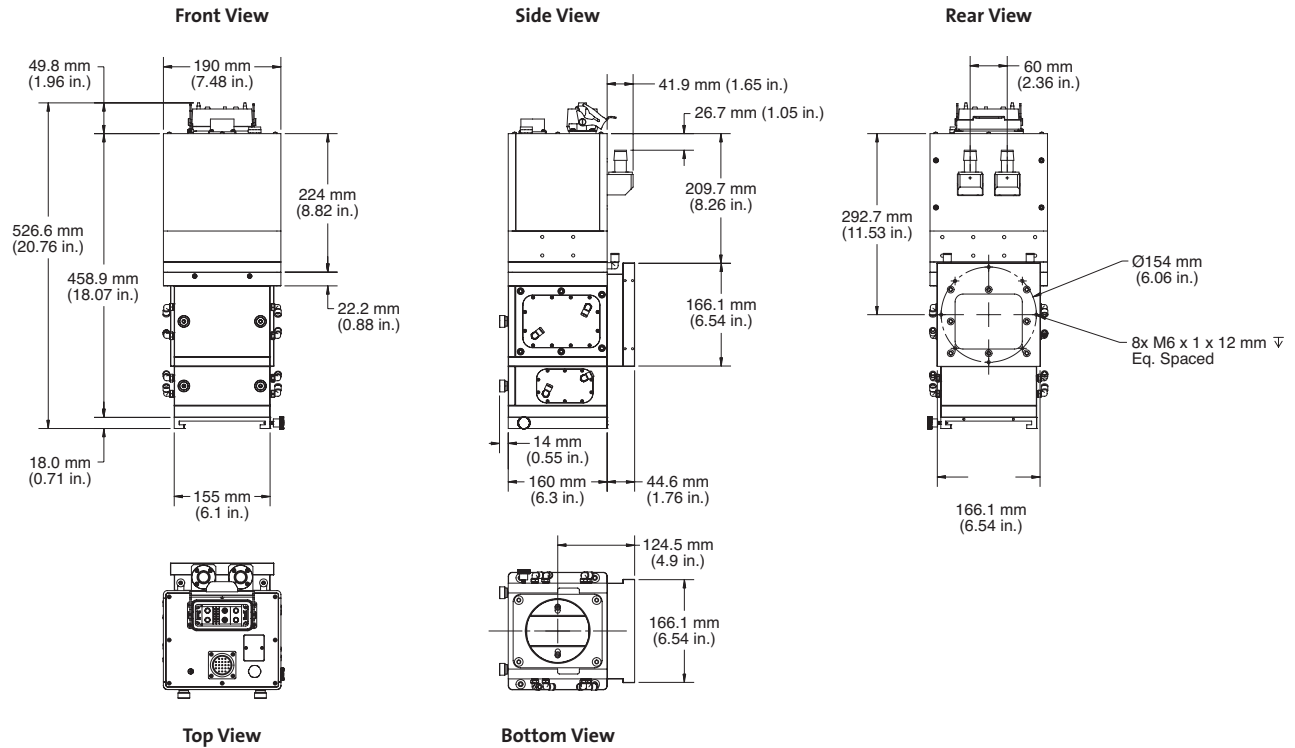
HighLight 10000D PIV Curve (typical)



HighLight D-Series

High-Power Direct-Diode Industrial Laser System

Mechanical Specifications



COHERENT®

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Coherent follows a policy of continuous product improvement. Specifications are subject to change without notice.

Coherent's scientific and industrial lasers are certified to comply with the Federal Regulations (21 CFR Subchapter J) as administered by the Center for Devices and Radiological Health on all systems ordered for shipment after August 2, 1976.

Coherent offers a limited warranty for all HighLight D-Series systems. 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.

