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.

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.
### System Specifications

<table>
<thead>
<tr>
<th></th>
<th>Highlight 10000D</th>
<th>Highlight 8000D</th>
<th>Highlight 4000D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output Power (W)</td>
<td>&gt;10,000</td>
<td>8,000</td>
<td>4,000</td>
</tr>
<tr>
<td>Wavelength (nm)</td>
<td>975 ±10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Power Stability (%/hour)</td>
<td>≤2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Working Distance</td>
<td>275 mm (10.8 in.)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maximum Repetition Rate (Hz)</td>
<td>300</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Minimum Pulse Width (ms)</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Line Beam Shape Options (mm) (nominal)</td>
<td>6, 12, 18, 24, 30, 36</td>
<td>6, 12, 18, 24, 30, 36</td>
<td>4, 5, 6, 12</td>
</tr>
<tr>
<td>Line Beam Width Expansion Options (mm)</td>
<td>1 mm to 2, 3, 4, 5, 6, 8, 12</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 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.)
- **Laser Head/Beam Shape Module Weight:** 23 kg (50 lbs.)
- **Laser Control Unit (LCU) Weight:** 250 kg (550 lbs.)
- **Chiller Weight:** ~600 kg (1320 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
- Chiller Water Temp. (°C): >14/12
- Chiller Water Temp. (°C): 25/25 ±1
- Chiller Water Temp. (°C): 39/39
- 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

#### 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 10000D PIV Curve](image-url)
Mechanical Specifications

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.

HighLight D-Series
High-Power Direct-Diode Industrial Laser System

Laser Cladding Technologies Pte Ltd
100G Pasir Panjang rd
#06-01 interlocal centre
Singapore 118523
www.lasercladding.tech
info@lct-sg.com