HighLight DL HPS Series

All-In-One, Industrial Diode Laser

The Coherent HighLight™ DL HPS lasers are high power, fiber delivered industrial diode laser systems with integrated water/air chiller that offers unmatched convenience and economy for metal processing applications such as cladding, heat treating, brazing and welding. Also, the HighLight™ DL HPS series uses conduction-cooled diodes which do not require deionized cooling water. Finally, its very high wall plug efficiency minimizes energy consumption and cost of ownership.

The HighLight™ DL HPS series is available with an extensive range of options which provide the flexibility for integration into a wide variety of laser-based manufacturing systems.

FEATURES & BENEFITS
- Output power: 1,000 to 4,000 Watts
- All-In-One Laser System
- Integrated water/air chiller
- Fiber coupled
- Highly cost and energy efficient

APPLICATIONS
- Cladding
- Heat treatment
- Brazing
- Welding
## Specifications

<table>
<thead>
<tr>
<th></th>
<th>HighLight DL1000HPS</th>
<th>HighLight DL2000HPS</th>
<th>HighLight DL3000HPS</th>
<th>HighLight DL4000HPS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal Power, cw (W)</td>
<td>1000</td>
<td>2000</td>
<td>3000</td>
<td>4000</td>
</tr>
<tr>
<td>Power Range (%)</td>
<td>10-100</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Laser Beam Quality (BPP) (mm*mrad)</td>
<td>&lt;100</td>
<td></td>
<td></td>
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<tr>
<td>Power Stability Over 24-hour; Cooling Water ΔT = ± 1 K (%)</td>
<td>± 2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pulse Frequency Range / LaserOn-Signal (Hz) / Analog Modulation (Hz)</td>
<td>1000 / 600</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wavelength (nm)</td>
<td>980 &amp; 1020</td>
<td></td>
<td>940; 980 &amp; 1020</td>
<td></td>
</tr>
<tr>
<td>Wavelength Tolerance (nm)</td>
<td>± 10</td>
<td></td>
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## Electrical Ratings

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<table>
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<tbody>
<tr>
<td>Operating Voltage</td>
<td>3x AC 230/400 V ± 10 %; 50/60 Hz; PE or 3x AC 277/480 V ± 10 %; 50/60 Hz; PE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Connected Load (kVA)</td>
<td>approx. 8</td>
<td>approx. 10</td>
<td>approx. 12</td>
<td>approx. 15.5</td>
</tr>
<tr>
<td>Effective Power at Nominal Power (kW)</td>
<td>approx. 7.6</td>
<td>approx. 9.4</td>
<td>approx. 11.4</td>
<td>approx. 14</td>
</tr>
<tr>
<td>Max. Current Consumption at 400 V (A)</td>
<td>&lt; 11</td>
<td>&lt; 14</td>
<td>&lt; 17</td>
<td>&lt; 25</td>
</tr>
<tr>
<td>Fuses Type NH (A)</td>
<td>16</td>
<td>16</td>
<td>32</td>
<td>32</td>
</tr>
</tbody>
</table>

## Cooling Integrated

- Cooling Water Quality: destilled water
- Cooling Water Tank Capacity (l): 32
- (refer to original manufacturer manual of cooling machine)

## Fiber Delivery System

- Interface: QBH, QD
- Diameter (µm): 1000
- Numerical Aperture (NA): 0.22
- Length (m): ≤ 35
- Accessories (options): Collimators, Focusing optics

## Dimensions & Weights

- Laser Dimension; w/o connectors (L x W x H) (mm): ~670 x ~1050 x ~1760
- Laser Weight; w/o cooling water and CCU**: 380

## Environmental Conditions

- Ambient Temperature (°C): +10 to +40
- Humidity: Non-condensing environment
- Dew Point Temperature (°C): ≤ 19 w/o CCU**** / ≤ 32 with CCU****
- Storage (°C): 5 to 50

## Customer Interface

- Analogue Power Control (V DC): 0 to 10 (600 Hz max. modulation frequency)
- Digital Power Control (V DC): 24
- Interface for Control via PC: Ethernet

## Options Laser

- Bus Interface (CanOpen, Profinet,...)**

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

** Others on demand.

*** Other options are available upon request.

**** Climate Control Unit.
MECHANICAL SPECIFICATIONS

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