PowerLine C 180/250/450

Versatile CO₂ Laser Scanning Sub-System

The Coherent PowerLine C sub-system integrates a CO₂ laser providing an extensive range of micro material processing applications, like free contour shaping, text or surface structuring of polymers, glass, paper, or natural materials such as leather, vulcanized rubber, or wood.

The wide spectrum of laser powers together with excellent beam quality and scanner deflection head technology allows numerous different kinds of material processing in one system: drilling, cutting, scribing, structuring, or engraving. High processing speeds can be achieved due to the fast scanner heads, high laser power of up to 450 W, and powerful, process enabling control software. Even most complex on-the-fly applications can be achieved in short processing times with excellent quality.

FEATURES & BENEFITS

- High-performance StarFlex software for a user-friendly graphic interface
- Rapid definition of contours and beam parameters
- Laser control based on PC architecture with CAN bus technology
- Standard interfaces to network connections under Windows 2010
- Sealed-off CO₂ laser technology
- No external gas supply necessary
- Minimum maintenance
- Compact - small size 19" rack

OPTIONS

- Available as standard module or stand-alone work station

APPLICATIONS

- Cutting
- Degating
- Drilling
- Labeling
- Perforating
- Stripping
- Structuring
## Laser System Specifications

<table>
<thead>
<tr>
<th></th>
<th>PowerLine C 180</th>
<th>PowerLine C 250</th>
<th>PowerLine C 450</th>
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</thead>
<tbody>
<tr>
<td><strong>Type</strong></td>
<td>CO₂ laser, sealed-off, slab, no gas supply</td>
<td></td>
<td></td>
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<tr>
<td><strong>Beam Quality</strong></td>
<td>M² &lt;1.2</td>
<td></td>
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<tr>
<td><strong>Pulse Length (µs)</strong></td>
<td>2 to 1000</td>
<td>2 to 1000</td>
<td>2 to 800</td>
</tr>
<tr>
<td><strong>Pulse Frequency (kHz)</strong></td>
<td>0 to 200</td>
<td></td>
<td></td>
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<tr>
<td><strong>Wavelengths (µm)</strong></td>
<td>9.3</td>
<td>10.25</td>
<td>10.6</td>
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<tr>
<td><strong>Nominal Output (W)</strong></td>
<td>160</td>
<td>150</td>
<td>180</td>
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</table>

## Processing Unit

- **Deflector Unit**: Galvanometer deflector system
- **Optics**: f-theta lenses and lens system for 3 axes
- **Processing Area (mm²)**:
  - 2 axes: 70 x 70 up to 340 x 340
  - 3 axes: 100 x 100 up to 1250 x 1250

## Control Unit

- **Interfaces**: PC with Windows 10 and CO₂ Control Unit (CCU ITX), host coupling, digital I/O

## Software

- **User Interface**: StarFlex
- **CAD System**: VLM with CAD Extension
- **Operating System**: Windows 10
- **Languages**: All commands and menus are available in a choice of 12 languages
- **Options**: On-the-fly processing and axes

## Cooling & Electrical Requirements

- **Electrical**:
  - 400 VAC/3 Ph/PE 50/60 Hz; 230 VAC/ N/ PE 50/60 Hz
- **Cooling**: Anti-corrosion treated water
- **Cooling Capacity (kW)**: >3.5 | >5.5 | >10
- **Water Flow (l/min.)**: ≥7.5 | ≥7.5 | ≥12
- **Coolant Setpoint Temperature Range**: 21 to 25°C (69.8 to 77°F)
- **Coolant Temperature Stability (max.)**: ±1.0°C (±1.8°F)

## Environmental Conditions

- **Temperature Operating Range**: 15 to 35°C (59 to 95°F)¹

## Dimensions & Weight

- **Laser Head with Deflector Unit (L x W x H)**:
  - 2 axes: 1564 x 353 x 356 mm (61.57 x 13.90 x 14.02 in.)
  - 3 axes: 1962 x 353 x 356 mm (77.24 x 13.90 x 14.02 in.)
- **Weight of Processing Unit**:
  - 2 axes: 82 kg (180.78 lbs.)
  - 3 axes: 96 kg (211.64 lbs.)
- **Supply Cabinet Dimensions (L x W x H)**:
  - Basic: 600 x 850 x 710 mm (23.62 x 33.46 x 27.95 in.)
  - Performance: 598 x 850 x 790 mm (23.54 x 33.46 x 31.10 in.)

¹ For highest precision.
MECHANICAL SPECIFICATIONS

PowerLine C 250
2 axes version

PowerLine C 250
3 axes version
**ELECTRICAL COMPONENTS**

**PowerLine C**  
19" Rack-Mountable Unit

**Supply Cabinet - Performance**

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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 PowerLine C 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.

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