The Integrity Laser Facet Coating system provides controlled reflectivity for laser diode bar coatings. This ion assisted evaporation solution deposits multilayer optical interference coatings for optical filtering and antireflection, and gives the user control over the stability, density and optical properties of deposited films. The Integrity is highly consistent and accurate, and well suited for demanding laser diode production requirements.

**Benefits Include:**

- Six-pocket e-beam source allows for multiple films
- Proprietary Denton Vacuum ion source options for adhesion & ion beam assisted deposition
- LambdaPro® OMS for real-time control
- High performance vacuum system minimizes oxide formation
- In situ flip fixture drives high productivity
- Process chamber optimized to meet film and productivity requirements

**Typical Configuration**

- Flat plate with flip-over paddles for laser bar dual side coating
- Optimized process chamber:
  - Cylindrical 304L stainless steel chamber, nominally 26” ID x 38” high
  - Water cooling features
  - Allows convenient access for crucible/material change & maintenance
  - Base pressure for properly conditioned chamber is 5 x 10⁻⁷ torr
- Electron beam source 6-10 kW:
  - Multiple crucibles
  - Metals and dielectrics melted
  - Beam sweeps for uniform evaporation
- LambdaPro® optical monitoring system fully integrated for precision control
- Endeavor RF plasma ion source

**Typical Application**

Multi-layer AR and HR coatings of InP and GaAs laser facets. Meets minimum optical reflectance values over a range of wavelengths.

- Typical multi-layer film stacks:
  - Al₂O₃/Si
  - TiO₂/SiO₂

**Optional Ion Source**

Use of an ion source prior to deposition is an effective pre-clean that enhances film adhesion. Ion assisted deposition (IAD) during e-beam evaporation improves film index of refraction and environmental stability by increasing deposition surface energy, therefore creating more dense and moisture-stable films.
### Options Available

<table>
<thead>
<tr>
<th></th>
<th>Standard</th>
<th>High Volume</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Size</strong></td>
<td>29 inches</td>
<td>39 inches</td>
</tr>
<tr>
<td><strong>Batch Size</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.75&quot; x 3.75&quot; paddles</td>
<td>12</td>
<td>18</td>
</tr>
<tr>
<td>3.12&quot; x 3.12&quot; paddles</td>
<td>14</td>
<td>20</td>
</tr>
<tr>
<td><strong>LambdaPro® Optical Monitoring System</strong></td>
<td>Optional</td>
<td>Optional</td>
</tr>
<tr>
<td><strong>Heated Substrates</strong></td>
<td>Up to 250°C</td>
<td>Up to 250°C</td>
</tr>
<tr>
<td><strong>Ion Source</strong></td>
<td>End-Hall or gridded</td>
<td>End-Hall or gridded</td>
</tr>
<tr>
<td><strong>Background O₂ Control</strong></td>
<td>Optional</td>
<td>Optional</td>
</tr>
</tbody>
</table>

### E-beam Source Options

**High Capacity:**
- Six pockets, 40 cc capacity each

**Second E-beam Source:**
- Add second e-beam source with second power supply & source shutter

**Thermal Evaporation Source Option:**
- 4 kW low voltage thermal evaporation source
  - One, two or three boats
  - Source shutter
  - Fully integrated to system controller

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Learn more about the Integrity Laser Facet Coating Solution. [Contact us](#) today.

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[Diagram of the device with views: Side View, Bird's Eye View, Front View]