A cylindrical achromat is single component made by bonding two cylindrical surface lenses having different refractive indexes. The resulting achromat creates fine lines close to the theoretical limit. The cylindrical achromat is recommended if blurred lines and color bleeding is a concern when using cylindrical plano-convex lens (CLB-P).

- It is designed so that difference of focusing point is reduced as much as possible in the visible light range.
- Optical adjustment is easy to do as direction of the condenser line will be parallel to the side of the diameter (B).
- It can be used as a substitute for a slit spectrograph.

![Schematic](image)

**Specifications**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>A×B [mm]</th>
<th>Focal length [mm]</th>
<th>Edge Thickness [mm]</th>
<th>Center Thickness [mm]</th>
<th>Back focal length [mm]</th>
</tr>
</thead>
<tbody>
<tr>
<td>CDL-1515-25PM</td>
<td>15×15</td>
<td>25.0</td>
<td>6.4</td>
<td>9.0</td>
<td>18.2</td>
</tr>
<tr>
<td>CDL-1515-50PM</td>
<td>15×15</td>
<td>50.0</td>
<td>4.7</td>
<td>6.0</td>
<td>46.4</td>
</tr>
<tr>
<td>CDL-1515-100PM</td>
<td>15×15</td>
<td>100.0</td>
<td>4.3</td>
<td>5.0</td>
<td>97.1</td>
</tr>
</tbody>
</table>

**Attention**

- Different focal length and diameters not mentioned on-line or in our catalog are available as a custom product upon request.
- Cylindrical lens holder (CHA) is available for mounting the achromatic cylinder lens. [Order Code: W4022]

**Guide**

- There is a direction of the incident parallel light with achromatic cylinder lens. The radius of curvature is allowed to be incident parallel light from the side of (the surface indicated by arrows) small curvature surface. If it is incident parallel light from the opposite side, condensing line will be thick.
- In the generatrix direction (B direction), there is no characteristic to reduce the effect of achromatic, reducing aberration, and for collecting light.
- If it is incident line beam source into achromatic cylindrical lens, parallel light does not come out. It will diverge in the direction of the generatrix (B direction).
- In order to focus the fine beam line, it is necessary to enter the lens a parallel beam of high quality.

**Material**

- N-SF5, BK7

**Design wavelength**

- Blue: 486.1nm, Green: 546.1nm, Red: 656.3nm

**Coating**

- Antireflection coating

**Cement**

- Ultraviolet cure adhesive

**Laser Damage Threshold**

- 0.3J/cm² (Laser pulse width 10ns, repetition frequency 20Hz)

**Surface Quality (Scratch-Dig)**

- 60 – 40

**Clear aperture**

- Circle that internally connected to 90% of the side length

**Tolerance**

- Length: A +0 –0.2, B +0 –0.2
- Thickness: tc±0.2
- Focal length ±3% (546.1nm)

**Clear aperture**

- Circle that internally connected to 90% of the side length