These biconcave lenses are used when a very high negative power is required. They can be used in a multi-element system or alone to produce a diverging cone or virtual image. Sharpe edges, which are common in negative lenses, are removed by beveling to reduce the likelihood of chipping.

- There are two types of biconvex lenses available; BK7 for use in visible range to infrared wavelength range and synthetic fused silica for wavelengths less than 350nm ultraviolet light.
- Consult our Sales Division for anti-reflection coatings suitable for your application.
- Our lenses are listed by outside diameter and focal length to assist your selection according to required specifications.

### Specifications

<table>
<thead>
<tr>
<th>Material</th>
<th>SLB: BK7</th>
<th>SLSQ: Synthetic fused silica</th>
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<tr>
<td>Design wavelength</td>
<td>546.1nm</td>
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<tr>
<td>Refractive index</td>
<td>BK7: n=1.519</td>
<td>Synthetic fused silica: n=1.460</td>
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<td>Coating</td>
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<td>Anti-reflection coating: the end of the part number ‘NM’, ‘NIR1’, ‘NIR2’</td>
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<td>Laser pulse with 10ns, repetition frequency 20Hz</td>
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<td>Clear aperture</td>
<td>90% of actual aperture: Uncoated</td>
<td>85% of actual aperture: with coating</td>
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<tr>
<td>Surface Quality (Scratch-Dig)</td>
<td>20–10</td>
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### Guide

- Lenses are available in a large selection and in custom sizes and focal lengths.
- In addition to our standard coating we offer custom anti-reflective coating at specific wavelengths.

### Attention

- When a concave lens is used in combination with a convex lens it will be able to converge the light and can projected a suitable image.
- The biconvex spherical lens has chromatic aberration, and the focal length will vary depending on the wavelength. Please check the “wavelength characteristic of the focal length data” on the Web for the focal lengths of each wavelength.
- Transmissions losses due to reflection off the front and rear surfaces of the lens can be minimized by coating the surfaces. Consult our Sales Team for anti-reflection coatings suitable for your application.
- The outer edge of the concave side is chamfered and the result is possibility that the lens may have a smaller edge thickness for this design.

### How to specify the anti-reflection coating

In case of specifying a anti-reflection coating 633nm – 1064nm to near infrared lens of SLB-50.8B-200N.

\[
\text{SLB-50.8B-200\_B-200NIR1}
\]

<table>
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<tr>
<th>Type of AR Coat</th>
<th>Part Number</th>
<th>Wavelength Range (nm)</th>
<th>Transmittance [%]</th>
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Part of the above is an example if you want to coat anti-reflective coating on the lens of the SLB-50.8B-200N.

Anti-reflection coating can be available to the lens of all of SLB.
## Biconcave Lenses  
**SLB-N/SLSQ-B-N**

### BK7 φ10 – φ50.8

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<th>Center thickness [mm]</th>
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</table>

### How to specify the anti-reflection coating

- **Uncoated**
- **50.8 Diameter**
  - 633 − 1064nm
- **W3060**
  - 750 − 1550nm
- **Infrared**
  - 25.4 − 149.7
  - 25.4 − 69.7
  - 25.4 − 59.7
  - 25.4 − 49.7
  - 25.4 − 39.7
  - 25.4 − 29.7
  - 25.4 − 24.7
  - 12.7 − 19.7
  - 12.7 − 14.7
  - 12.7 − 9.7

### Specifications

- **Center [mm]**
- **tc**
- **fb**
- **Radius of curvature [mm]**
- **r**
- **Code**
- **Part Number**
- **Visible**

### Notes

- [mm]
- °
## Synthetic fused silica \( \phi 10 \times \phi 50.8 \)

<table>
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<tr>
<th>Part Number</th>
<th>Diameter ( \phi D ) [mm]</th>
<th>Focal length ( f ) [mm]</th>
<th>Edge thickness ( t_e ) [mm]</th>
<th>Center thickness ( t_c ) [mm]</th>
<th>Back focal length ( f_b ) [mm]</th>
<th>Radius of curvature ( r ) [mm]</th>
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**Compatibility Optic Mounts**