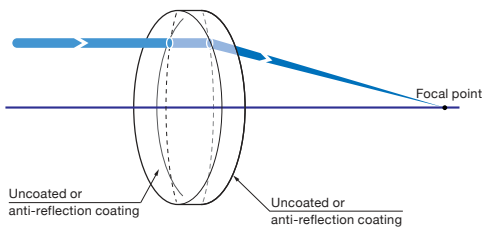


Symmetrical biconvex lenses are most useful when dealing with finite conjugate points. This makes them ideal for 1:1 imaging applications or for use in multi-element systems.

- 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.
- BK7 lenses are also available with three types of anti-reflection coatings, visible wavelength range, in the near-infrared range and in the infrared range.
- Our lenses are listed by outside diameter and focal length to assist your selection according to required specifications.

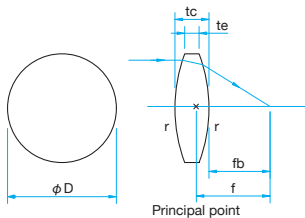


Schematic



Outline Drawing

(in mm)



- Tolerance
- Diameter
  - φ60 or less  $\phi D_{-0.1}^{+0.1}$
  - φ80  $\phi D_{-0.15}^{+0.15}$
  - φ100  $\phi D_{-0.2}^{+0.2}$
- Thickness  $tc \pm 0.15$
- Focal length
  - ( $\phi 10 \leq \phi D$ )  $\pm 1\%$
  - ( $\phi D < \phi 10$ )  $\pm 2\%$

Specifications

|                               |                                                                                                                                                   |
|-------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| Material                      | SLB: BK7 SLSQ: Synthetic fused silica                                                                                                             |
| Design wavelength             | 546.1nm                                                                                                                                           |
| Refractive index              | BK7: $n_e=1.519$<br>Synthetic fused silica: $n_e=1.460$                                                                                           |
| Coating                       | Uncoated: the end of the part number 'P'<br>Anti-reflection coating: the end of the part number 'PM', 'PIR1', 'PIR2'                              |
| Laser Damage Threshold        | Anti-reflection coating: $4J/cm^2$<br>Laser pulse with 10ns, repetition frequency 20Hz                                                            |
| Clear aperture                | 90% of actual aperture: Uncoated<br>85% of actual aperture: with coating, $\phi 10 \leq D$<br>83% of actual aperture: with coating, $D < \phi 10$ |
| Surface Quality (Scratch-Dig) | 20-10 $\phi 10 \leq D$<br>40-20 $D < \phi 10$                                                                                                     |

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.
- ▶ Achromatic lenses (DLB) which are chromatic aberration correction are also available. [Reference](#) B172

Attention

- ▶ The biconvex spherical lens has a 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. [WEB Reference](#) [Catalog Code](#) W3055
- ▶ Biconvex spherical aberration is larger than that of the plano-convex lens, so focal spot may not gather at one point.
- ▶ Transmissions losses due to reflection off the front and rear surfaces of the lens can be minimized by coating the surfaces. Consult our Sales Division for anti-reflection coatings suitable for your application.

How to specify the anti-reflection coating

In case of specifying a anti-reflection coating 633nm – 1064nm to near infrared lens of SLB-100B-500P.  
⇒ SLB-100B-500PIR1

| Type of AR Coat | Part Number      | Wavelength Range [nm] | Transmittance [%] |
|-----------------|------------------|-----------------------|-------------------|
| Visible range   | SLB-100B-500PM   | 400 – 700             | > Average 99      |
| Near-infrared   | SLB-100B-500PIR1 | 633 – 1064            | > Average 98.5    |
| Infrared        | SLB-100B-500PIR2 | 750 – 1550            | > Average 98.5    |

! Part of the above is an example of if you want to coat anti-reflective coating on the lens of the SLB-100B-500P.

! Anti-reflection coating can be available to the lens of all of SLB.

BK7 φ5

| Part Number | How to specify the anti-reflection coating |                    |                            | Diameter φD [mm] | Focal length f [mm] | Edge thickness te [mm] | Center thickness tc [mm] | Back focal length fb [mm] | Radius of curvature r [mm] | Centration [ ' ] |                       |
|-------------|--------------------------------------------|--------------------|----------------------------|------------------|---------------------|------------------------|--------------------------|---------------------------|----------------------------|------------------|-----------------------|
|             | Uncoated                                   | Visibe 400 – 700nm | Near-infrared 633 – 1064nm |                  |                     |                        |                          |                           |                            |                  | Infrared 750 – 1550nm |
| SLB-05B-06P |                                            | M                  | IR1                        | IR2              | φ5                  | 6.4                    | 1.5                      | 2.5                       | 5.6                        | 6.23             | <3                    |
| SLB-05B-08P |                                            | M                  | IR1                        | IR2              | φ5                  | 8.4                    | 1.4                      | 2.1                       | 7.6                        | 8.30             | <3                    |
| SLB-05B-10P |                                            | M                  | IR1                        | IR2              | φ5                  | 10.3                   | 1.3                      | 1.9                       | 9.7                        | 10.38            | <3                    |
| SLB-05B-12P |                                            | M                  | IR1                        | IR2              | φ5                  | 12.3                   | 1.2                      | 1.7                       | 11.7                       | 12.46            | <3                    |
| SLB-05B-15P |                                            | M                  | IR1                        | IR2              | φ5                  | 15.3                   | 1.2                      | 1.6                       | 14.7                       | 15.57            | <3                    |
| SLB-05B-20P |                                            | M                  | IR1                        | IR2              | φ5                  | 20.2                   | 1.1                      | 1.4                       | 19.8                       | 20.76            | <3                    |
| SLB-05B-25P |                                            | M                  | IR1                        | IR2              | φ5                  | 25.2                   | 1.1                      | 1.3                       | 24.8                       | 25.95            | <3                    |

Compatible Optic Mounts

MLH-10, -15

BK7  $\phi 6 - \phi 20$ 

| Application Systems          | Uncoated      | How to specify the anti-reflection coating |                            |                       | Diameter $\phi D$ [mm] | Focal length $f$ [mm] | Edge thickness $t_e$ [mm] | Center thickness $t_c$ [mm] | Back focal length $f_b$ [mm] | Radius of curvature $r$ [mm] | Centration ['] |
|------------------------------|---------------|--------------------------------------------|----------------------------|-----------------------|------------------------|-----------------------|---------------------------|-----------------------------|------------------------------|------------------------------|----------------|
|                              | Part Number   | Visible 400 - 700nm                        | Near-infrared 633 - 1064nm | Infrared 750 - 1550nm |                        |                       |                           |                             |                              |                              |                |
| Optics & Optical Coatings    | SLB-06B-06P   | M                                          | IR1                        | IR2                   | $\phi 6$               | 6.4                   | 1.0                       | 2.5                         | 5.6                          | 6.23                         | <3             |
|                              | SLB-06B-08P   | M                                          | IR1                        | IR2                   | $\phi 6$               | 8.4                   | 1.0                       | 2.1                         | 7.6                          | 8.30                         | <3             |
|                              | SLB-06B-10P   | M                                          | IR1                        | IR2                   | $\phi 6$               | 10.3                  | 1.0                       | 1.9                         | 9.7                          | 10.38                        | <3             |
| Opto-Mechanics               | SLB-06B-12P   | M                                          | IR1                        | IR2                   | $\phi 6$               | 12.3                  | 1.0                       | 1.7                         | 11.7                         | 12.46                        | <3             |
|                              | SLB-06B-15P   | M                                          | IR1                        | IR2                   | $\phi 6$               | 15.3                  | 1.0                       | 1.6                         | 14.7                         | 15.57                        | <3             |
|                              | SLB-06B-20P   | M                                          | IR1                        | IR2                   | $\phi 6$               | 20.2                  | 1.0                       | 1.4                         | 19.8                         | 20.76                        | <3             |
|                              | SLB-07B-08P   | M                                          | IR1                        | IR2                   | $\phi 7$               | 8.6                   | 2.0                       | 3.6                         | 7.4                          | 8.30                         | <3             |
| Bases                        | SLB-07B-10P   | M                                          | IR1                        | IR2                   | $\phi 7$               | 10.5                  | 1.9                       | 3.1                         | 9.5                          | 10.38                        | <3             |
|                              | SLB-07B-12P   | M                                          | IR1                        | IR2                   | $\phi 7$               | 12.5                  | 1.8                       | 2.8                         | 11.5                         | 12.46                        | <3             |
|                              | SLB-07B-15P   | M                                          | IR1                        | IR2                   | $\phi 7$               | 15.4                  | 1.7                       | 2.5                         | 14.6                         | 15.57                        | <3             |
| Manual Stages                | SLB-07B-20P   | M                                          | IR1                        | IR2                   | $\phi 7$               | 20.4                  | 1.7                       | 2.3                         | 19.6                         | 20.76                        | <3             |
|                              | SLB-08B-08P   | M                                          | IR1                        | IR2                   | $\phi 8$               | 8.6                   | 1.5                       | 3.6                         | 7.4                          | 8.30                         | <3             |
| Actuators & Adjusters        | SLB-08B-10P   | M                                          | IR1                        | IR2                   | $\phi 8$               | 10.5                  | 1.5                       | 3.1                         | 9.5                          | 10.38                        | <3             |
|                              | SLB-08B-12P   | M                                          | IR1                        | IR2                   | $\phi 8$               | 12.5                  | 1.5                       | 2.8                         | 11.5                         | 12.46                        | <3             |
|                              | SLB-08B-15P   | M                                          | IR1                        | IR2                   | $\phi 8$               | 15.4                  | 1.5                       | 2.5                         | 14.6                         | 15.57                        | <3             |
| Motorized Stages             | SLB-08B-20P   | M                                          | IR1                        | IR2                   | $\phi 8$               | 20.4                  | 1.5                       | 2.3                         | 19.6                         | 20.76                        | <3             |
|                              | SLB-08B-25P   | M                                          | IR1                        | IR2                   | $\phi 8$               | 25.4                  | 1.5                       | 2.1                         | 24.6                         | 25.95                        | <3             |
|                              | SLB-10B-10P   | M                                          | IR1                        | IR2                   | $\phi 10$              | 10.8                  | 2.0                       | 4.6                         | 9.2                          | 10.38                        | <1             |
| Light Sources & Laser Safety | SLB-10B-15P   | M                                          | IR1                        | IR2                   | $\phi 10$              | 15.6                  | 2.0                       | 3.6                         | 14.4                         | 15.57                        | <1             |
|                              | SLB-10B-20P   | M                                          | IR1                        | IR2                   | $\phi 10$              | 20.5                  | 2.0                       | 3.2                         | 19.5                         | 20.76                        | <1             |
|                              | SLB-10B-25P   | M                                          | IR1                        | IR2                   | $\phi 10$              | 25.5                  | 2.0                       | 3.0                         | 24.5                         | 25.95                        | <1             |
| Index                        | SLB-10B-30P   | M                                          | IR1                        | IR2                   | $\phi 10$              | 30.5                  | 2.0                       | 2.8                         | 29.5                         | 31.14                        | <1             |
|                              | SLB-10B-40P   | M                                          | IR1                        | IR2                   | $\phi 10$              | 40.4                  | 2.0                       | 2.6                         | 39.6                         | 41.52                        | <1             |
|                              | SLB-10B-50P   | M                                          | IR1                        | IR2                   | $\phi 10$              | 50.4                  | 2.0                       | 2.5                         | 49.6                         | 51.90                        | <1             |
|                              | SLB-10B-60P   | M                                          | IR1                        | IR2                   | $\phi 10$              | 60.4                  | 2.0                       | 2.4                         | 59.6                         | 62.28                        | <1             |
| Guide                        | SLB-10B-70P   | M                                          | IR1                        | IR2                   | $\phi 10$              | 70.4                  | 2.0                       | 2.3                         | 69.6                         | 72.66                        | <1             |
|                              | SLB-10B-80P   | M                                          | IR1                        | IR2                   | $\phi 10$              | 80.4                  | 2.0                       | 2.3                         | 79.6                         | 83.04                        | <1             |
| Mirrors                      | SLB-10B-90P   | M                                          | IR1                        | IR2                   | $\phi 10$              | 90.4                  | 2.0                       | 2.3                         | 89.6                         | 93.42                        | <1             |
|                              | SLB-10B-100P  | M                                          | IR1                        | IR2                   | $\phi 10$              | 100.4                 | 2.0                       | 2.2                         | 99.6                         | 103.80                       | <1             |
| Beamsplitters                | SLB-12.7B-12P | M                                          | IR1                        | IR2                   | $\phi 12.7$            | 13.0                  | 2.0                       | 5.5                         | 11.0                         | 12.46                        | <1             |
|                              | SLB-12.7B-20P | M                                          | IR1                        | IR2                   | $\phi 12.7$            | 20.7                  | 2.0                       | 4.0                         | 19.3                         | 20.76                        | <1             |
| Polarizers                   | SLB-12.7B-25P | M                                          | IR1                        | IR2                   | $\phi 12.7$            | 25.6                  | 2.0                       | 3.6                         | 24.4                         | 25.95                        | <1             |
|                              | SLB-12.7B-30P | M                                          | IR1                        | IR2                   | $\phi 12.7$            | 30.6                  | 2.0                       | 3.3                         | 29.5                         | 31.14                        | <1             |
| Lenses                       | SLB-12.7B-40P | M                                          | IR1                        | IR2                   | $\phi 12.7$            | 40.5                  | 2.0                       | 3.0                         | 39.5                         | 41.52                        | <1             |
|                              | SLB-12.7B-50P | M                                          | IR1                        | IR2                   | $\phi 12.7$            | 50.5                  | 2.0                       | 2.8                         | 49.5                         | 51.90                        | <1             |
| Multi-Element Optics         | SLB-12.7B-60P | M                                          | IR1                        | IR2                   | $\phi 12.7$            | 60.4                  | 2.0                       | 2.6                         | 59.6                         | 62.28                        | <1             |
|                              | SLB-12.7B-70P | M                                          | IR1                        | IR2                   | $\phi 12.7$            | 70.4                  | 2.0                       | 2.6                         | 69.6                         | 72.66                        | <1             |
| Filters                      | SLB-15B-15P   | M                                          | IR1                        | IR2                   | $\phi 15$              | 16.0                  | 2.0                       | 5.9                         | 14.0                         | 15.57                        | <1             |
|                              | SLB-15B-20P   | M                                          | IR1                        | IR2                   | $\phi 15$              | 20.8                  | 2.0                       | 4.8                         | 19.2                         | 20.76                        | <1             |
| Prisms                       | SLB-15B-25P   | M                                          | IR1                        | IR2                   | $\phi 15$              | 25.7                  | 2.0                       | 4.2                         | 24.3                         | 25.95                        | <1             |
|                              | SLB-15B-30P   | M                                          | IR1                        | IR2                   | $\phi 15$              | 30.6                  | 2.0                       | 3.8                         | 29.4                         | 31.14                        | <1             |
| Substrates/Windows           | SLB-15B-40P   | M                                          | IR1                        | IR2                   | $\phi 15$              | 40.6                  | 2.0                       | 3.4                         | 39.4                         | 41.52                        | <1             |
|                              | SLB-15B-50P   | M                                          | IR1                        | IR2                   | $\phi 15$              | 50.5                  | 2.0                       | 3.1                         | 49.5                         | 51.90                        | <1             |
| Optical Data                 | SLB-15B-60P   | M                                          | IR1                        | IR2                   | $\phi 15$              | 60.5                  | 2.0                       | 2.9                         | 59.5                         | 62.28                        | <1             |
|                              | SLB-15B-70P   | M                                          | IR1                        | IR2                   | $\phi 15$              | 70.5                  | 2.0                       | 2.8                         | 69.5                         | 72.66                        | <1             |
| Maintenance                  | SLB-15B-80P   | M                                          | IR1                        | IR2                   | $\phi 15$              | 80.4                  | 2.0                       | 2.7                         | 79.6                         | 83.04                        | <1             |
|                              | SLB-15B-90P   | M                                          | IR1                        | IR2                   | $\phi 15$              | 90.4                  | 2.0                       | 2.6                         | 89.6                         | 93.42                        | <1             |
| Selection Guide              | SLB-15B-100P  | M                                          | IR1                        | IR2                   | $\phi 15$              | 100.4                 | 2.0                       | 2.5                         | 99.6                         | 103.80                       | <1             |
|                              | SLB-20B-20P   | M                                          | IR1                        | IR2                   | $\phi 20$              | 21.2                  | 2.0                       | 7.1                         | 18.8                         | 20.76                        | <1             |
| Biconcave Lenses             | SLB-20B-25P   | M                                          | IR1                        | IR2                   | $\phi 20$              | 26.0                  | 2.0                       | 6.0                         | 24.0                         | 25.95                        | <1             |
|                              | SLB-20B-30P   | M                                          | IR1                        | IR2                   | $\phi 20$              | 31.0                  | 2.0                       | 5.3                         | 29.1                         | 31.14                        | <1             |
| Kit                          | SLB-20B-40P   | M                                          | IR1                        | IR2                   | $\phi 20$              | 40.7                  | 2.0                       | 4.4                         | 39.3                         | 41.52                        | <1             |
|                              | SLB-20B-50P   | M                                          | IR1                        | IR2                   | $\phi 20$              | 50.7                  | 2.0                       | 3.9                         | 49.3                         | 51.90                        | <1             |
| Reasonable Lens              | SLB-20B-60P   | M                                          | IR1                        | IR2                   | $\phi 20$              | 60.6                  | 2.0                       | 3.6                         | 59.4                         | 62.28                        | <1             |
|                              | SLB-20B-70P   | M                                          | IR1                        | IR2                   | $\phi 20$              | 70.6                  | 2.0                       | 3.4                         | 69.4                         | 72.66                        | <1             |
| Cylindrical                  | SLB-20B-80P   | M                                          | IR1                        | IR2                   | $\phi 20$              | 80.5                  | 2.0                       | 3.2                         | 79.5                         | 83.04                        | <1             |
|                              | SLB-20B-90P   | M                                          | IR1                        | IR2                   | $\phi 20$              | 90.5                  | 2.0                       | 3.1                         | 89.5                         | 93.42                        | <1             |
| Others                       | SLB-20B-100P  | M                                          | IR1                        | IR2                   | $\phi 20$              | 100.5                 | 2.0                       | 3.0                         | 99.5                         | 103.80                       | <1             |
|                              | SLB-20B-120P  | M                                          | IR1                        | IR2                   | $\phi 20$              | 120.5                 | 2.0                       | 2.8                         | 119.5                        | 124.56                       | <1             |
|                              | SLB-20B-150P  | M                                          | IR1                        | IR2                   | $\phi 20$              | 150.4                 | 2.0                       | 2.6                         | 149.6                        | 155.70                       | <1             |

## Compatible Optic Mounts

LHF-10S, -12.7S, -15S, -20S / MLH-10, -15



**BK7  $\phi 25 - \phi 50$**

| Part Number    | How to specify the anti-reflection coating |                    |                            | Diameter $\phi D$ [mm] | Focal length $f$ [mm] | Edge thickness $t_e$ [mm] | Center thickness $t_c$ [mm] | Back focal length $f_b$ [mm] | Radius of curvature $r$ [mm] | Centration ['] |
|----------------|--------------------------------------------|--------------------|----------------------------|------------------------|-----------------------|---------------------------|-----------------------------|------------------------------|------------------------------|----------------|
|                | Uncoated                                   | Visibe 400 - 700nm | Near-infrared 633 - 1064nm |                        |                       |                           |                             |                              |                              |                |
| SLB-25B-25P    | M                                          | IR1                | IR2                        | $\phi 25$              | 26.5                  | 2.0                       | 8.4                         | 23.5                         | 25.95                        | <1             |
| SLB-25B-30P    | M                                          | IR1                | IR2                        | $\phi 25$              | 31.2                  | 2.0                       | 7.2                         | 28.8                         | 31.14                        | <1             |
| SLB-25B-35P    | M                                          | IR1                | IR2                        | $\phi 25$              | 36.1                  | 2.0                       | 6.4                         | 33.9                         | 36.33                        | <1             |
| SLB-25B-40P    | M                                          | IR1                | IR2                        | $\phi 25$              | 41.0                  | 2.0                       | 5.9                         | 39.0                         | 41.52                        | <1             |
| SLB-25B-50P    | M                                          | IR1                | IR2                        | $\phi 25$              | 50.8                  | 2.0                       | 5.1                         | 49.2                         | 51.90                        | <1             |
| SLB-25B-60P    | M                                          | IR1                | IR2                        | $\phi 25$              | 60.8                  | 2.0                       | 4.5                         | 59.2                         | 62.28                        | <1             |
| SLB-25B-70P    | M                                          | IR1                | IR2                        | $\phi 25$              | 70.7                  | 2.0                       | 4.1                         | 69.3                         | 72.66                        | <1             |
| SLB-25B-80P    | M                                          | IR1                | IR2                        | $\phi 25$              | 80.6                  | 2.0                       | 3.9                         | 79.4                         | 83.04                        | <1             |
| SLB-25B-90P    | M                                          | IR1                | IR2                        | $\phi 25$              | 90.6                  | 2.0                       | 3.7                         | 89.4                         | 93.42                        | <1             |
| SLB-25B-100P   | M                                          | IR1                | IR2                        | $\phi 25$              | 100.6                 | 2.0                       | 3.5                         | 99.4                         | 103.80                       | <1             |
| SLB-25B-150P   | M                                          | IR1                | IR2                        | $\phi 25$              | 150.5                 | 2.0                       | 3.0                         | 149.5                        | 155.70                       | <1             |
| SLB-25B-170P   | M                                          | IR1                | IR2                        | $\phi 25$              | 170.5                 | 2.0                       | 2.9                         | 169.5                        | 176.46                       | <1             |
| SLB-25B-200P   | M                                          | IR1                | IR2                        | $\phi 25$              | 200.5                 | 2.0                       | 2.8                         | 199.5                        | 207.60                       | <1             |
| SLB-25.4B-25P  | M                                          | IR1                | IR2                        | $\phi 25.4$            | 26.5                  | 1.8                       | 8.4                         | 23.6                         | 25.95                        | <1             |
| SLB-25.4B-30P  | M                                          | IR1                | IR2                        | $\phi 25.4$            | 31.2                  | 1.8                       | 7.2                         | 28.7                         | 31.14                        | <1             |
| SLB-25.4B-35P  | M                                          | IR1                | IR2                        | $\phi 25.4$            | 36.1                  | 1.8                       | 6.4                         | 33.9                         | 36.33                        | <1             |
| SLB-25.4B-40P  | M                                          | IR1                | IR2                        | $\phi 25.4$            | 41.0                  | 1.9                       | 5.9                         | 39.0                         | 41.52                        | <1             |
| SLB-25.4B-50P  | M                                          | IR1                | IR2                        | $\phi 25.4$            | 50.8                  | 1.9                       | 5.1                         | 49.2                         | 51.90                        | <1             |
| SLB-25.4B-60P  | M                                          | IR1                | IR2                        | $\phi 25.4$            | 60.8                  | 1.9                       | 4.5                         | 59.2                         | 62.28                        | <1             |
| SLB-25.4B-70P  | M                                          | IR1                | IR2                        | $\phi 25.4$            | 70.7                  | 1.9                       | 4.1                         | 69.3                         | 72.66                        | <1             |
| SLB-25.4B-80P  | M                                          | IR1                | IR2                        | $\phi 25.4$            | 80.6                  | 1.9                       | 3.9                         | 79.3                         | 83.04                        | <1             |
| SLB-25.4B-100P | M                                          | IR1                | IR2                        | $\phi 25.4$            | 100.6                 | 1.9                       | 3.5                         | 99.4                         | 103.80                       | <1             |
| SLB-25.4B-150P | M                                          | IR1                | IR2                        | $\phi 25.4$            | 150.5                 | 2.0                       | 3.0                         | 149.5                        | 155.70                       | <1             |
| SLB-25.4B-200P | M                                          | IR1                | IR2                        | $\phi 25.4$            | 200.5                 | 2.0                       | 2.8                         | 199.6                        | 207.60                       | <1             |
| SLB-30B-30P    | M                                          | IR1                | IR2                        | $\phi 30$              | 31.7                  | 2.0                       | 9.7                         | 28.3                         | 31.14                        | <1             |
| SLB-30B-35P    | M                                          | IR1                | IR2                        | $\phi 30$              | 36.5                  | 2.0                       | 8.5                         | 33.5                         | 36.33                        | <1             |
| SLB-30B-40P    | M                                          | IR1                | IR2                        | $\phi 30$              | 41.3                  | 2.0                       | 7.6                         | 38.7                         | 41.52                        | <1             |
| SLB-30B-50P    | M                                          | IR1                | IR2                        | $\phi 30$              | 51.1                  | 2.0                       | 6.4                         | 48.9                         | 51.90                        | <1             |
| SLB-30B-60P    | M                                          | IR1                | IR2                        | $\phi 30$              | 60.9                  | 2.0                       | 5.7                         | 59.1                         | 62.28                        | <1             |
| SLB-30B-70P    | M                                          | IR1                | IR2                        | $\phi 30$              | 70.9                  | 2.0                       | 5.1                         | 69.1                         | 72.66                        | <1             |
| SLB-30B-80P    | M                                          | IR1                | IR2                        | $\phi 30$              | 80.8                  | 2.0                       | 4.7                         | 79.2                         | 83.04                        | <1             |
| SLB-30B-100P   | M                                          | IR1                | IR2                        | $\phi 30$              | 100.7                 | 2.0                       | 4.2                         | 99.3                         | 103.80                       | <1             |
| SLB-30B-120P   | M                                          | IR1                | IR2                        | $\phi 30$              | 120.6                 | 2.0                       | 3.8                         | 119.4                        | 124.56                       | <1             |
| SLB-30B-150P   | M                                          | IR1                | IR2                        | $\phi 30$              | 150.6                 | 2.0                       | 3.4                         | 149.4                        | 155.70                       | <1             |
| SLB-30B-170P   | M                                          | IR1                | IR2                        | $\phi 30$              | 170.5                 | 2.0                       | 3.3                         | 169.5                        | 176.46                       | <1             |
| SLB-30B-200P   | M                                          | IR1                | IR2                        | $\phi 30$              | 200.5                 | 2.0                       | 3.1                         | 199.5                        | 207.60                       | <1             |
| SLB-30B-250P   | M                                          | IR1                | IR2                        | $\phi 30$              | 250.5                 | 2.0                       | 2.9                         | 249.5                        | 259.50                       | <1             |
| SLB-40B-40P    | M                                          | IR1                | IR2                        | $\phi 40$              | 42.1                  | 2.0                       | 12.3                        | 37.9                         | 41.52                        | <1             |
| SLB-40B-50P    | M                                          | IR1                | IR2                        | $\phi 40$              | 51.7                  | 2.0                       | 10.0                        | 48.3                         | 51.90                        | <1             |
| SLB-40B-60P    | M                                          | IR1                | IR2                        | $\phi 40$              | 61.4                  | 2.0                       | 8.6                         | 58.6                         | 62.28                        | <1             |
| SLB-40B-70P    | M                                          | IR1                | IR2                        | $\phi 40$              | 71.3                  | 2.0                       | 7.6                         | 68.7                         | 72.66                        | <1             |
| SLB-40B-80P    | M                                          | IR1                | IR2                        | $\phi 40$              | 81.2                  | 2.0                       | 6.9                         | 78.8                         | 83.04                        | <1             |
| SLB-40B-90P    | M                                          | IR1                | IR2                        | $\phi 40$              | 91.1                  | 2.0                       | 6.3                         | 88.9                         | 93.42                        | <1             |
| SLB-40B-100P   | M                                          | IR1                | IR2                        | $\phi 40$              | 101.0                 | 2.0                       | 5.9                         | 99.0                         | 103.80                       | <1             |
| SLB-40B-120P   | M                                          | IR1                | IR2                        | $\phi 40$              | 120.9                 | 2.0                       | 5.2                         | 119.1                        | 124.56                       | <1             |
| SLB-40B-150P   | M                                          | IR1                | IR2                        | $\phi 40$              | 150.8                 | 2.0                       | 4.6                         | 149.2                        | 155.70                       | <1             |
| SLB-40B-170P   | M                                          | IR1                | IR2                        | $\phi 40$              | 170.7                 | 2.0                       | 4.3                         | 169.3                        | 176.46                       | <1             |
| SLB-40B-200P   | M                                          | IR1                | IR2                        | $\phi 40$              | 200.6                 | 2.0                       | 3.9                         | 199.4                        | 207.60                       | <1             |
| SLB-40B-250P   | M                                          | IR1                | IR2                        | $\phi 40$              | 250.6                 | 2.0                       | 3.5                         | 249.4                        | 259.50                       | <1             |
| SLB-50B-50P    | M                                          | IR1                | IR2                        | $\phi 50$              | 52.7                  | 3.0                       | 15.8                        | 47.3                         | 51.90                        | <1             |
| SLB-50B-60P    | M                                          | IR1                | IR2                        | $\phi 50$              | 62.3                  | 3.0                       | 13.5                        | 57.7                         | 62.28                        | <1             |
| SLB-50B-70P    | M                                          | IR1                | IR2                        | $\phi 50$              | 72.0                  | 3.0                       | 11.9                        | 68.0                         | 72.66                        | <1             |
| SLB-50B-80P    | M                                          | IR1                | IR2                        | $\phi 50$              | 81.8                  | 3.0                       | 10.7                        | 78.2                         | 83.04                        | <1             |
| SLB-50B-90P    | M                                          | IR1                | IR2                        | $\phi 50$              | 91.6                  | 3.0                       | 9.8                         | 88.4                         | 93.42                        | <1             |
| SLB-50B-100P   | M                                          | IR1                | IR2                        | $\phi 50$              | 101.5                 | 3.0                       | 9.1                         | 98.5                         | 103.80                       | <1             |
| SLB-50B-120P   | M                                          | IR1                | IR2                        | $\phi 50$              | 121.3                 | 3.0                       | 8.0                         | 118.7                        | 124.56                       | <1             |
| SLB-50B-150P   | M                                          | IR1                | IR2                        | $\phi 50$              | 151.2                 | 3.0                       | 7.0                         | 148.8                        | 155.70                       | <1             |
| SLB-50B-170P   | M                                          | IR1                | IR2                        | $\phi 50$              | 171.1                 | 3.0                       | 6.6                         | 168.9                        | 176.46                       | <1             |
| SLB-50B-200P   | M                                          | IR1                | IR2                        | $\phi 50$              | 201.0                 | 3.0                       | 6.0                         | 199.0                        | 207.60                       | <1             |
| SLB-50B-220P   | M                                          | IR1                | IR2                        | $\phi 50$              | 220.9                 | 3.0                       | 5.7                         | 219.1                        | 228.36                       | <1             |
| SLB-50B-250P   | M                                          | IR1                | IR2                        | $\phi 50$              | 251.0                 | 3.0                       | 5.4                         | 249.1                        | 259.50                       | <1             |
| SLB-50B-300P   | M                                          | IR1                | IR2                        | $\phi 50$              | 300.8                 | 3.0                       | 5.0                         | 299.2                        | 311.40                       | <1             |

**Compatible Optic Mounts**

LHF-25S, -25.4S, -30S, -40S, -50S

- Application Systems
- Optics & Optical Coatings
- Opto-Mechanics
- Bases
- Manual Stages
- Actuators & Adjusters
- MotORIZED Stages
- Light Sources & Laser Safety
- Index
- Guide
- Mirrors
- Beamsplitters
- Polarizers
- Lenses
- Multi-Element Optics
- Filters
- Prisms
- Substrates/Windows
- Optical Data
- Maintenance
- Selection Guide
- Plano Convex Lenses
- Plano Concave Lenses
- Biconvex Lenses
- Biconcave Lenses
- Kit
- Reasonable Lens
- Cylindrical
- Others

# Biconvex Lenses | SLB-B-P/SLSQ-B-P

Catalog Code **W3057**

| BK7 $\phi 50.8 - \phi 100$   |                |                                            |                            |                       |                        |                       |                           |                             |                              |                              |                |
|------------------------------|----------------|--------------------------------------------|----------------------------|-----------------------|------------------------|-----------------------|---------------------------|-----------------------------|------------------------------|------------------------------|----------------|
| Application Systems          | Uncoated       | How to specify the anti-reflection coating |                            |                       | Diameter $\phi D$ [mm] | Focal length $f$ [mm] | Edge thickness $t_e$ [mm] | Center thickness $t_c$ [mm] | Back focal length $f_b$ [mm] | Radius of curvature $r$ [mm] | Centration ['] |
|                              | Part Number    | Visible 400 - 700nm                        | Near-infrared 633 - 1064nm | Infrared 750 - 1550nm |                        |                       |                           |                             |                              |                              |                |
| Optics & Optical Coatings    | SLB-50.8B-50P  | M                                          | IR1                        | IR2                   | $\phi 50.8$            | 52.7                  | 3.0                       | 16.3                        | 47.1                         | 51.90                        | <1             |
|                              | SLB-50.8B-60P  | M                                          | IR1                        | IR2                   | $\phi 50.8$            | 62.3                  | 3.0                       | 13.8                        | 57.7                         | 62.28                        | <1             |
| Opto-Mechanics               | SLB-50.8B-70P  | M                                          | IR1                        | IR2                   | $\phi 50.8$            | 72.0                  | 3.0                       | 12.2                        | 68.0                         | 72.66                        | <1             |
|                              | SLB-50.8B-80P  | M                                          | IR1                        | IR2                   | $\phi 50.8$            | 81.8                  | 3.0                       | 11.0                        | 78.2                         | 83.04                        | <1             |
|                              | SLB-50.8B-90P  | M                                          | IR1                        | IR2                   | $\phi 50.8$            | 91.6                  | 2.8                       | 9.8                         | 88.3                         | 93.42                        | <1             |
|                              | SLB-50.8B-100P | M                                          | IR1                        | IR2                   | $\phi 50.8$            | 101.5                 | 3.0                       | 9.3                         | 98.5                         | 103.80                       | <1             |
| Bases                        | SLB-50.8B-120P | M                                          | IR1                        | IR2                   | $\phi 50.8$            | 121.3                 | 2.8                       | 8.0                         | 118.6                        | 124.56                       | <1             |
|                              | SLB-50.8B-150P | M                                          | IR1                        | IR2                   | $\phi 50.8$            | 151.2                 | 2.8                       | 7.0                         | 148.9                        | 155.70                       | <1             |
|                              | SLB-50.8B-170P | M                                          | IR1                        | IR2                   | $\phi 50.8$            | 171.1                 | 2.4                       | 6.1                         | 169.0                        | 176.46                       | <1             |
| Manual Stages                | SLB-50.8B-200P | M                                          | IR1                        | IR2                   | $\phi 50.8$            | 201.0                 | 2.9                       | 6.0                         | 199.0                        | 207.60                       | <1             |
|                              | SLB-50.8B-250P | M                                          | IR1                        | IR2                   | $\phi 50.8$            | 251.0                 | 2.9                       | 5.4                         | 249.1                        | 259.50                       | <1             |
| Actuators & Adjusters        | SLB-50.8B-300P | M                                          | IR1                        | IR2                   | $\phi 50.8$            | 300.8                 | 2.9                       | 5.0                         | 299.1                        | 311.40                       | <1             |
|                              | SLB-60B-60P    | M                                          | IR1                        | IR2                   | $\phi 60$              | 63.2                  | 3.0                       | 18.4                        | 56.8                         | 62.28                        | <1             |
|                              | SLB-60B-70P    | M                                          | IR1                        | IR2                   | $\phi 60$              | 72.7                  | 3.0                       | 16.0                        | 67.3                         | 72.66                        | <1             |
| Motorized Stages             | SLB-60B-80P    | M                                          | IR1                        | IR2                   | $\phi 60$              | 82.4                  | 3.0                       | 14.2                        | 77.6                         | 83.04                        | <1             |
|                              | SLB-60B-90P    | M                                          | IR1                        | IR2                   | $\phi 60$              | 92.2                  | 3.0                       | 13.0                        | 87.8                         | 93.42                        | <1             |
|                              | SLB-60B-100P   | M                                          | IR1                        | IR2                   | $\phi 60$              | 102.0                 | 3.0                       | 11.9                        | 98.0                         | 103.80                       | <1             |
| Light Sources & Laser Safety | SLB-60B-120P   | M                                          | IR1                        | IR2                   | $\phi 60$              | 121.7                 | 3.0                       | 10.3                        | 118.3                        | 124.56                       | <1             |
|                              | SLB-60B-150P   | M                                          | IR1                        | IR2                   | $\phi 60$              | 151.5                 | 3.0                       | 8.8                         | 148.5                        | 155.70                       | <1             |
|                              | SLB-60B-170P   | M                                          | IR1                        | IR2                   | $\phi 60$              | 171.4                 | 3.0                       | 8.1                         | 168.7                        | 176.46                       | <1             |
|                              | SLB-60B-200P   | M                                          | IR1                        | IR2                   | $\phi 60$              | 201.2                 | 3.0                       | 7.4                         | 198.8                        | 207.60                       | <1             |
| Index                        | SLB-60B-250P   | M                                          | IR1                        | IR2                   | $\phi 60$              | 251.1                 | 3.0                       | 6.5                         | 248.9                        | 259.50                       | <1             |
|                              | SLB-60B-300P   | M                                          | IR1                        | IR2                   | $\phi 60$              | 301.0                 | 3.0                       | 5.9                         | 299.0                        | 311.40                       | <1             |
|                              | SLB-80B-100P   | M                                          | IR1                        | IR2                   | $\phi 80$              | 103.2                 | 3.0                       | 19.0                        | 96.8                         | 103.80                       | <1             |
| Guide                        | SLB-80B-150P   | M                                          | IR1                        | IR2                   | $\phi 80$              | 152.2                 | 3.0                       | 13.5                        | 147.8                        | 155.70                       | <1             |
|                              | SLB-80B-200P   | M                                          | IR1                        | IR2                   | $\phi 80$              | 201.8                 | 3.0                       | 10.8                        | 198.2                        | 207.60                       | <1             |
|                              | SLB-80B-250P   | M                                          | IR1                        | IR2                   | $\phi 80$              | 251.5                 | 3.0                       | 9.2                         | 248.5                        | 259.50                       | <1             |
| Mirrors                      | SLB-80B-300P   | M                                          | IR1                        | IR2                   | $\phi 80$              | 301.3                 | 3.0                       | 8.2                         | 298.7                        | 311.40                       | <1             |
|                              | SLB-80B-400P   | M                                          | IR1                        | IR2                   | $\phi 80$              | 401.1                 | 3.0                       | 6.9                         | 398.9                        | 415.20                       | <1             |
| Beamsplitters                | SLB-80B-500P   | M                                          | IR1                        | IR2                   | $\phi 80$              | 501.0                 | 3.0                       | 6.1                         | 499.0                        | 519.00                       | <1             |
|                              | SLB-80B-700P   | M                                          | IR1                        | IR2                   | $\phi 80$              | 700.9                 | 3.0                       | 5.2                         | 699.1                        | 726.60                       | <1             |
| Polarizers                   | SLB-80B-1000P  | M                                          | IR1                        | IR2                   | $\phi 80$              | 1000.7                | 3.0                       | 4.5                         | 999.3                        | 1038.00                      | <1             |
|                              | SLB-100B-150P  | M                                          | IR1                        | IR2                   | $\phi 100$             | 153.3                 | 3.0                       | 19.5                        | 146.7                        | 155.70                       | <1             |
| Lenses                       | SLB-100B-200P  | M                                          | IR1                        | IR2                   | $\phi 100$             | 202.5                 | 3.0                       | 15.2                        | 197.5                        | 207.60                       | <1             |
|                              | SLB-100B-250P  | M                                          | IR1                        | IR2                   | $\phi 100$             | 252.1                 | 3.0                       | 12.7                        | 247.9                        | 259.50                       | <1             |
| Multi-Element Optics         | SLB-100B-300P  | M                                          | IR1                        | IR2                   | $\phi 100$             | 301.8                 | 3.0                       | 11.1                        | 298.2                        | 311.40                       | <1             |
|                              | SLB-100B-400P  | M                                          | IR1                        | IR2                   | $\phi 100$             | 401.5                 | 3.0                       | 9.0                         | 398.5                        | 415.20                       | <1             |
| Filters                      | SLB-100B-500P  | M                                          | IR1                        | IR2                   | $\phi 100$             | 501.3                 | 3.0                       | 7.8                         | 498.7                        | 519.00                       | <1             |
|                              | SLB-100B-700P  | M                                          | IR1                        | IR2                   | $\phi 100$             | 701.1                 | 3.0                       | 6.4                         | 698.9                        | 726.60                       | <1             |
| Prisms                       | SLB-100B-1000P | M                                          | IR1                        | IR2                   | $\phi 100$             | 1001.0                | 3.0                       | 5.4                         | 999.1                        | 1038.00                      | <1             |
|                              | SLB-100B-1000P | M                                          | IR1                        | IR2                   | $\phi 100$             | 1001.0                | 3.0                       | 5.4                         | 999.1                        | 1038.00                      | <1             |

Catalog Code **W3058**

| Synthetic fused silica $\phi 5 - \phi 6$ |                        |                       |                           |                             |                              |                              |                |    |
|------------------------------------------|------------------------|-----------------------|---------------------------|-----------------------------|------------------------------|------------------------------|----------------|----|
| Part Number                              | Diameter $\phi D$ [mm] | Focal length $f$ [mm] | Edge thickness $t_e$ [mm] | Center thickness $t_c$ [mm] | Back focal length $f_b$ [mm] | Radius of curvature $r$ [mm] | Centration ['] |    |
| Plano Convex Lenses                      | SLSQ-05B-06P           | $\phi 5$              | 6.5                       | 1.6                         | 2.8                          | 5.5                          | 5.52           | <3 |
| Plano Concave Lenses                     | SLSQ-05B-08P           | $\phi 5$              | 8.4                       | 1.4                         | 2.3                          | 7.6                          | 7.36           | <3 |
| Biconvex Lenses                          | SLSQ-05B-10P           | $\phi 5$              | 10.4                      | 1.3                         | 2.0                          | 9.6                          | 9.20           | <3 |
|                                          | SLSQ-05B-12P           | $\phi 5$              | 12.3                      | 1.3                         | 1.8                          | 11.7                         | 11.04          | <3 |
| Biconcave Lenses                         | SLSQ-05B-15P           | $\phi 5$              | 15.3                      | 1.2                         | 1.7                          | 14.7                         | 13.80          | <3 |
|                                          | SLSQ-05B-20P           | $\phi 5$              | 20.3                      | 1.2                         | 1.5                          | 19.7                         | 18.40          | <3 |
|                                          | SLSQ-05B-25P           | $\phi 5$              | 25.2                      | 1.1                         | 1.4                          | 24.8                         | 23.00          | <3 |
| Kit                                      | SLSQ-05B-30P           | $\phi 5$              | 30.2                      | 1.1                         | 1.3                          | 29.8                         | 27.60          | <3 |
|                                          | SLSQ-06B-06P           | $\phi 6$              | 6.5                       | 1.0                         | 2.8                          | 5.5                          | 5.52           | <3 |
| Cylindrical                              | SLSQ-06B-08P           | $\phi 6$              | 8.4                       | 1.0                         | 2.3                          | 7.6                          | 7.36           | <3 |
|                                          | SLSQ-06B-10P           | $\phi 6$              | 10.4                      | 1.0                         | 2.0                          | 9.6                          | 9.20           | <3 |
| Others                                   | SLSQ-06B-12P           | $\phi 6$              | 12.3                      | 1.0                         | 1.8                          | 11.7                         | 11.04          | <3 |
|                                          | SLSQ-06B-15P           | $\phi 6$              | 15.3                      | 1.0                         | 1.7                          | 14.7                         | 13.80          | <3 |
|                                          | SLSQ-06B-20P           | $\phi 6$              | 20.3                      | 1.0                         | 1.5                          | 19.7                         | 18.40          | <3 |
|                                          | SLSQ-06B-25P           | $\phi 6$              | 25.2                      | 1.0                         | 1.4                          | 24.8                         | 23.00          | <3 |
|                                          | SLSQ-06B-30P           | $\phi 6$              | 30.2                      | 1.0                         | 1.3                          | 29.8                         | 27.60          | <3 |

**Compatible Optic Mounts**

LHF-50.8S, -60AS, -80, -100 / MLH-10, -15



**Synthetic fused silica  $\phi 7 - \phi 25$**

| Part Number   | Diameter $\phi D$ [mm] | Focal length $f$ [mm] | Edge thickness $t_e$ [mm] | Center thickness $t_c$ [mm] | Back focal length $f_b$ [mm] | Radius of curvature $r$ [mm] | Centration ['] |
|---------------|------------------------|-----------------------|---------------------------|-----------------------------|------------------------------|------------------------------|----------------|
| SLSQ-07B-08P  | $\phi 7$               | 8.7                   | 2.1                       | 3.9                         | 7.3                          | 7.36                         | <3             |
| SLSQ-07B-10P  | $\phi 7$               | 10.6                  | 1.9                       | 3.3                         | 9.4                          | 9.20                         | <3             |
| SLSQ-07B-12P  | $\phi 7$               | 12.5                  | 1.9                       | 3.0                         | 11.5                         | 11.04                        | <3             |
| SLSQ-07B-15P  | $\phi 7$               | 15.5                  | 1.8                       | 2.7                         | 14.5                         | 13.80                        | <3             |
| SLSQ-07B-20P  | $\phi 7$               | 20.4                  | 1.7                       | 2.4                         | 19.6                         | 18.40                        | <3             |
| SLSQ-07B-25P  | $\phi 7$               | 25.4                  | 1.7                       | 2.2                         | 24.6                         | 23.00                        | <3             |
| SLSQ-07B-30P  | $\phi 7$               | 30.4                  | 1.6                       | 2.1                         | 29.6                         | 27.60                        | <3             |
| SLSQ-07B-40P  | $\phi 7$               | 40.3                  | 1.6                       | 1.9                         | 39.7                         | 36.80                        | <3             |
| SLSQ-07B-50P  | $\phi 7$               | 50.3                  | 1.6                       | 1.8                         | 49.7                         | 46.00                        | <3             |
| SLSQ-08B-08P  | $\phi 8$               | 8.7                   | 1.5                       | 3.9                         | 7.3                          | 7.36                         | <3             |
| SLSQ-08B-10P  | $\phi 8$               | 10.6                  | 1.5                       | 3.3                         | 9.4                          | 9.20                         | <3             |
| SLSQ-08B-12P  | $\phi 8$               | 12.5                  | 1.5                       | 3.0                         | 11.5                         | 11.04                        | <3             |
| SLSQ-08B-15P  | $\phi 8$               | 15.5                  | 1.5                       | 2.7                         | 14.5                         | 13.80                        | <3             |
| SLSQ-08B-20P  | $\phi 8$               | 20.4                  | 1.5                       | 2.4                         | 19.6                         | 18.40                        | <3             |
| SLSQ-08B-25P  | $\phi 8$               | 25.4                  | 1.5                       | 2.2                         | 24.6                         | 23.00                        | <3             |
| SLSQ-08B-30P  | $\phi 8$               | 30.4                  | 1.5                       | 2.1                         | 29.6                         | 27.60                        | <3             |
| SLSQ-08B-40P  | $\phi 8$               | 40.3                  | 1.5                       | 1.9                         | 39.7                         | 36.80                        | <3             |
| SLSQ-08B-50P  | $\phi 8$               | 50.3                  | 1.5                       | 1.8                         | 49.7                         | 46.00                        | <3             |
| SLSQ-10B-10P  | $\phi 10$              | 10.9                  | 2.0                       | 5.0                         | 9.1                          | 9.20                         | <1             |
| SLSQ-10B-15P  | $\phi 10$              | 15.7                  | 2.0                       | 3.9                         | 14.3                         | 13.80                        | <1             |
| SLSQ-10B-20P  | $\phi 10$              | 20.6                  | 2.0                       | 3.4                         | 19.4                         | 18.40                        | <1             |
| SLSQ-10B-25P  | $\phi 10$              | 25.5                  | 2.0                       | 3.1                         | 24.5                         | 23.00                        | <1             |
| SLSQ-10B-30P  | $\phi 10$              | 30.5                  | 2.0                       | 2.9                         | 29.5                         | 27.60                        | <1             |
| SLSQ-10B-40P  | $\phi 10$              | 40.5                  | 2.0                       | 2.7                         | 39.5                         | 36.80                        | <1             |
| SLSQ-10B-50P  | $\phi 10$              | 50.4                  | 2.0                       | 2.5                         | 49.6                         | 46.00                        | <1             |
| SLSQ-10B-60P  | $\phi 10$              | 60.4                  | 2.0                       | 2.5                         | 59.6                         | 55.20                        | <1             |
| SLSQ-10B-70P  | $\phi 10$              | 70.4                  | 2.0                       | 2.4                         | 69.6                         | 64.40                        | <1             |
| SLSQ-10B-80P  | $\phi 10$              | 80.4                  | 2.0                       | 2.3                         | 79.6                         | 73.60                        | <1             |
| SLSQ-10B-90P  | $\phi 10$              | 90.4                  | 2.0                       | 2.3                         | 89.6                         | 82.80                        | <1             |
| SLSQ-10B-100P | $\phi 10$              | 100.4                 | 2.0                       | 2.3                         | 99.6                         | 92.00                        | <1             |
| SLSQ-15B-15P  | $\phi 15$              | 16.2                  | 2.0                       | 6.4                         | 13.8                         | 13.80                        | <1             |
| SLSQ-15B-20P  | $\phi 15$              | 20.9                  | 2.0                       | 5.2                         | 19.1                         | 18.40                        | <1             |
| SLSQ-15B-25P  | $\phi 15$              | 25.8                  | 2.0                       | 4.5                         | 24.2                         | 23.00                        | <1             |
| SLSQ-15B-30P  | $\phi 15$              | 30.7                  | 2.0                       | 4.1                         | 29.3                         | 27.60                        | <1             |
| SLSQ-15B-40P  | $\phi 15$              | 40.6                  | 2.0                       | 3.5                         | 39.4                         | 36.80                        | <1             |
| SLSQ-15B-50P  | $\phi 15$              | 50.6                  | 2.0                       | 3.2                         | 49.4                         | 46.00                        | <1             |
| SLSQ-15B-60P  | $\phi 15$              | 60.5                  | 2.0                       | 3.0                         | 59.5                         | 55.20                        | <1             |
| SLSQ-15B-70P  | $\phi 15$              | 70.5                  | 2.0                       | 2.9                         | 69.5                         | 64.40                        | <1             |
| SLSQ-15B-80P  | $\phi 15$              | 80.5                  | 2.0                       | 2.8                         | 79.5                         | 73.60                        | <1             |
| SLSQ-15B-90P  | $\phi 15$              | 90.5                  | 2.0                       | 2.7                         | 89.5                         | 82.80                        | <1             |
| SLSQ-15B-100P | $\phi 15$              | 100.5                 | 2.0                       | 2.6                         | 99.6                         | 92.00                        | <1             |
| SLSQ-20B-20P  | $\phi 20$              | 21.5                  | 2.0                       | 7.9                         | 18.5                         | 18.40                        | <1             |
| SLSQ-20B-25P  | $\phi 20$              | 26.2                  | 2.0                       | 6.6                         | 23.8                         | 23.00                        | <1             |
| SLSQ-20B-30P  | $\phi 20$              | 31.0                  | 2.0                       | 5.8                         | 29.0                         | 27.60                        | <1             |
| SLSQ-20B-40P  | $\phi 20$              | 40.8                  | 2.0                       | 4.8                         | 39.2                         | 36.80                        | <1             |
| SLSQ-20B-50P  | $\phi 20$              | 50.7                  | 2.0                       | 4.2                         | 49.3                         | 46.00                        | <1             |
| SLSQ-20B-60P  | $\phi 20$              | 60.7                  | 2.0                       | 3.8                         | 59.3                         | 55.20                        | <1             |
| SLSQ-20B-70P  | $\phi 20$              | 70.6                  | 2.0                       | 3.6                         | 69.4                         | 64.40                        | <1             |
| SLSQ-20B-80P  | $\phi 20$              | 80.6                  | 2.0                       | 3.4                         | 79.4                         | 73.60                        | <1             |
| SLSQ-20B-90P  | $\phi 20$              | 90.6                  | 2.0                       | 3.2                         | 89.4                         | 82.80                        | <1             |
| SLSQ-20B-100P | $\phi 20$              | 100.5                 | 2.0                       | 3.1                         | 99.5                         | 92.00                        | <1             |
| SLSQ-20B-120P | $\phi 20$              | 120.5                 | 2.0                       | 2.9                         | 119.5                        | 110.40                       | <1             |
| SLSQ-20B-150P | $\phi 20$              | 150.5                 | 2.0                       | 2.7                         | 149.5                        | 138.00                       | <1             |
| SLSQ-25B-25P  | $\phi 25$              | 26.7                  | 2.0                       | 9.4                         | 23.3                         | 23.00                        | <1             |
| SLSQ-25B-30P  | $\phi 25$              | 31.4                  | 2.0                       | 8.0                         | 28.6                         | 27.60                        | <1             |
| SLSQ-25B-35P  | $\phi 25$              | 36.3                  | 2.0                       | 7.1                         | 33.7                         | 32.20                        | <1             |
| SLSQ-25B-40P  | $\phi 25$              | 41.1                  | 2.0                       | 6.4                         | 38.9                         | 36.80                        | <1             |
| SLSQ-25B-50P  | $\phi 25$              | 51.0                  | 2.0                       | 5.5                         | 49.0                         | 46.00                        | <1             |
| SLSQ-25B-60P  | $\phi 25$              | 60.8                  | 2.0                       | 4.9                         | 59.2                         | 55.20                        | <1             |
| SLSQ-25B-70P  | $\phi 25$              | 70.8                  | 2.0                       | 4.5                         | 69.2                         | 64.40                        | <1             |
| SLSQ-25B-80P  | $\phi 25$              | 80.7                  | 2.0                       | 4.1                         | 79.3                         | 73.60                        | <1             |
| SLSQ-25B-90P  | $\phi 25$              | 90.7                  | 2.0                       | 3.9                         | 89.3                         | 82.80                        | <1             |
| SLSQ-25B-100P | $\phi 25$              | 100.6                 | 2.0                       | 3.7                         | 99.4                         | 92.00                        | <1             |
| SLSQ-25B-120P | $\phi 25$              | 120.6                 | 2.0                       | 3.4                         | 119.4                        | 110.40                       | <1             |
| SLSQ-25B-150P | $\phi 25$              | 150.5                 | 2.0                       | 3.1                         | 149.5                        | 138.00                       | <1             |
| SLSQ-25B-170P | $\phi 25$              | 170.5                 | 2.0                       | 3.0                         | 169.5                        | 156.40                       | <1             |
| SLSQ-25B-200P | $\phi 25$              | 200.5                 | 2.0                       | 2.9                         | 199.5                        | 184.00                       | <1             |

**Compatible Optic Mounts**

LHF-10S, -12.7S, -15S, -20S, -25S / MLH-10, -15

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## Biconvex Lenses | SLB-B-P/SLSQ-B-P

Catalog Code W3059

Synthetic fused silica  $\phi 25.4 - \phi 50.8$ 

| Application Systems | Part Number     | Diameter $\phi D$ [mm] | Focal length $f$ [mm] | Edge thickness $t_e$ [mm] | Center thickness $t_c$ [mm] | Back focal length $f_b$ [mm] | Radius of curvature $r$ [mm] | Centration ['] |
|---------------------|-----------------|------------------------|-----------------------|---------------------------|-----------------------------|------------------------------|------------------------------|----------------|
|                     | SLSQ-25.4B-25P  | $\phi 25.4$            | 26.7                  | 1.8                       | 9.4                         | 23.3                         | 23.00                        | <1             |
|                     | SLSQ-25.4B-30P  | $\phi 25.4$            | 31.4                  | 1.8                       | 8.0                         | 28.5                         | 27.60                        | <1             |
|                     | SLSQ-25.4B-35P  | $\phi 25.4$            | 36.3                  | 1.9                       | 7.1                         | 33.8                         | 32.20                        | <1             |
|                     | SLSQ-25.4B-40P  | $\phi 25.4$            | 41.1                  | 1.9                       | 6.4                         | 38.8                         | 36.80                        | <1             |
|                     | SLSQ-25.4B-50P  | $\phi 25.4$            | 51.0                  | 1.9                       | 5.5                         | 49.1                         | 46.00                        | <1             |
|                     | SLSQ-25.4B-60P  | $\phi 25.4$            | 60.9                  | 1.9                       | 4.9                         | 59.0                         | 55.20                        | <1             |
|                     | SLSQ-25.4B-70P  | $\phi 25.4$            | 70.8                  | 1.9                       | 4.4                         | 69.1                         | 64.40                        | <1             |
|                     | SLSQ-25.4B-80P  | $\phi 25.4$            | 80.7                  | 1.9                       | 4.1                         | 79.1                         | 73.60                        | <1             |
|                     | SLSQ-25.4B-90P  | $\phi 25.4$            | 90.7                  | 1.9                       | 3.9                         | 89.2                         | 82.80                        | <1             |
|                     | SLSQ-25.4B-100P | $\phi 25.4$            | 100.6                 | 1.9                       | 3.7                         | 99.2                         | 92.00                        | <1             |
|                     | SLSQ-25.4B-150P | $\phi 25.4$            | 150.5                 | 1.9                       | 3.1                         | 149.3                        | 138.00                       | <1             |
|                     | SLSQ-25.4B-200P | $\phi 25.4$            | 200.5                 | 2.0                       | 2.9                         | 199.4                        | 184.00                       | <1             |
|                     | SLSQ-30B-30P    | $\phi 30$              | 32.0                  | 2.0                       | 10.9                        | 28.0                         | 27.60                        | <1             |
|                     | SLSQ-30B-35P    | $\phi 30$              | 36.7                  | 2.0                       | 9.4                         | 33.3                         | 32.20                        | <1             |
|                     | SLSQ-30B-40P    | $\phi 30$              | 41.5                  | 2.0                       | 8.4                         | 38.5                         | 36.80                        | <1             |
|                     | SLSQ-30B-50P    | $\phi 30$              | 51.2                  | 2.0                       | 7.0                         | 48.8                         | 46.00                        | <1             |
|                     | SLSQ-30B-60P    | $\phi 30$              | 61.1                  | 2.0                       | 6.2                         | 58.9                         | 55.20                        | <1             |
|                     | SLSQ-30B-70P    | $\phi 30$              | 71.0                  | 2.0                       | 5.5                         | 69.0                         | 64.40                        | <1             |
|                     | SLSQ-30B-80P    | $\phi 30$              | 80.9                  | 2.0                       | 5.1                         | 79.1                         | 73.60                        | <1             |
|                     | SLSQ-30B-90P    | $\phi 30$              | 90.8                  | 2.0                       | 4.7                         | 89.2                         | 82.80                        | <1             |
|                     | SLSQ-30B-100P   | $\phi 30$              | 100.8                 | 2.0                       | 4.5                         | 99.2                         | 92.00                        | <1             |
|                     | SLSQ-30B-120P   | $\phi 30$              | 120.7                 | 2.0                       | 4.0                         | 119.3                        | 110.40                       | <1             |
|                     | SLSQ-30B-150P   | $\phi 30$              | 150.6                 | 2.0                       | 3.6                         | 149.4                        | 138.00                       | <1             |
|                     | SLSQ-30B-170P   | $\phi 30$              | 170.6                 | 2.0                       | 3.4                         | 169.4                        | 156.40                       | <1             |
|                     | SLSQ-30B-200P   | $\phi 30$              | 200.6                 | 2.0                       | 3.2                         | 199.4                        | 184.00                       | <1             |
|                     | SLSQ-30B-220P   | $\phi 30$              | 220.5                 | 2.0                       | 3.1                         | 219.5                        | 202.40                       | <1             |
|                     | SLSQ-30B-250P   | $\phi 30$              | 250.5                 | 2.0                       | 3.0                         | 249.5                        | 230.00                       | <1             |
|                     | SLSQ-40B-40P    | $\phi 40$              | 42.5                  | 2.0                       | 13.8                        | 37.5                         | 36.80                        | <1             |
|                     | SLSQ-40B-50P    | $\phi 40$              | 52.0                  | 2.0                       | 11.2                        | 48.0                         | 46.00                        | <1             |
|                     | SLSQ-40B-60P    | $\phi 40$              | 61.7                  | 2.0                       | 9.5                         | 58.3                         | 55.20                        | <1             |
|                     | SLSQ-40B-70P    | $\phi 40$              | 71.5                  | 2.0                       | 8.4                         | 68.5                         | 64.40                        | <1             |
|                     | SLSQ-40B-80P    | $\phi 40$              | 81.3                  | 2.0                       | 7.5                         | 78.7                         | 73.60                        | <1             |
|                     | SLSQ-40B-90P    | $\phi 40$              | 91.2                  | 2.0                       | 6.9                         | 88.8                         | 82.80                        | <1             |
|                     | SLSQ-40B-100P   | $\phi 40$              | 101.1                 | 2.0                       | 6.4                         | 98.9                         | 92.00                        | <1             |
|                     | SLSQ-40B-120P   | $\phi 40$              | 121.0                 | 2.0                       | 5.7                         | 119.0                        | 110.40                       | <1             |
|                     | SLSQ-40B-150P   | $\phi 40$              | 150.8                 | 2.0                       | 4.9                         | 149.2                        | 138.00                       | <1             |
|                     | SLSQ-40B-170P   | $\phi 40$              | 170.8                 | 2.0                       | 4.6                         | 169.2                        | 156.40                       | <1             |
|                     | SLSQ-40B-200P   | $\phi 40$              | 200.7                 | 2.0                       | 4.2                         | 199.3                        | 184.00                       | <1             |
|                     | SLSQ-40B-220P   | $\phi 40$              | 220.7                 | 2.0                       | 4.0                         | 219.3                        | 202.40                       | <1             |
|                     | SLSQ-40B-250P   | $\phi 40$              | 250.6                 | 2.0                       | 3.7                         | 249.4                        | 230.00                       | <1             |
|                     | SLSQ-50B-50P    | $\phi 50$              | 53.2                  | 3.0                       | 17.8                        | 46.8                         | 46.00                        | <1             |
|                     | SLSQ-50B-60P    | $\phi 50$              | 62.7                  | 3.0                       | 15.0                        | 57.3                         | 55.20                        | <1             |
|                     | SLSQ-50B-70P    | $\phi 50$              | 72.3                  | 3.0                       | 13.1                        | 67.7                         | 64.40                        | <1             |
|                     | SLSQ-50B-80P    | $\phi 50$              | 82.1                  | 3.0                       | 11.8                        | 77.9                         | 73.60                        | <1             |
|                     | SLSQ-50B-90P    | $\phi 50$              | 91.9                  | 3.0                       | 10.7                        | 88.1                         | 82.80                        | <1             |
|                     | SLSQ-50B-100P   | $\phi 50$              | 101.7                 | 3.0                       | 9.9                         | 98.3                         | 92.00                        | <1             |
|                     | SLSQ-50B-120P   | $\phi 50$              | 121.5                 | 3.0                       | 8.7                         | 118.5                        | 110.40                       | <1             |
|                     | SLSQ-50B-150P   | $\phi 50$              | 151.3                 | 3.0                       | 7.6                         | 148.7                        | 138.00                       | <1             |
|                     | SLSQ-50B-170P   | $\phi 50$              | 171.2                 | 3.0                       | 7.0                         | 168.8                        | 156.40                       | <1             |
|                     | SLSQ-50B-200P   | $\phi 50$              | 201.1                 | 3.0                       | 6.4                         | 198.9                        | 184.00                       | <1             |
|                     | SLSQ-50B-220P   | $\phi 50$              | 221.0                 | 3.0                       | 6.1                         | 219.0                        | 202.40                       | <1             |
|                     | SLSQ-50B-250P   | $\phi 50$              | 251.0                 | 3.0                       | 5.7                         | 249.0                        | 230.00                       | <1             |
|                     | SLSQ-50B-300P   | $\phi 50$              | 300.9                 | 3.0                       | 5.3                         | 299.1                        | 276.00                       | <1             |
|                     | SLSQ-50.8B-50P  | $\phi 50.8$            | 53.2                  | 2.5                       | 17.8                        | 46.7                         | 46.00                        | <1             |
|                     | SLSQ-50.8B-60P  | $\phi 50.8$            | 62.7                  | 2.6                       | 15.0                        | 57.3                         | 55.20                        | <1             |
|                     | SLSQ-50.8B-70P  | $\phi 50.8$            | 72.3                  | 2.7                       | 13.1                        | 67.7                         | 64.40                        | <1             |
|                     | SLSQ-50.8B-80P  | $\phi 50.8$            | 82.1                  | 2.8                       | 11.8                        | 78.0                         | 73.60                        | <1             |
|                     | SLSQ-50.8B-90P  | $\phi 50.8$            | 91.9                  | 2.7                       | 10.7                        | 87.7                         | 82.80                        | <1             |
|                     | SLSQ-50.8B-100P | $\phi 50.8$            | 101.7                 | 2.7                       | 9.9                         | 98.3                         | 92.00                        | <1             |
|                     | SLSQ-50.8B-120P | $\phi 50.8$            | 121.5                 | 2.8                       | 8.7                         | 118.5                        | 110.40                       | <1             |
|                     | SLSQ-50.8B-150P | $\phi 50.8$            | 151.3                 | 2.9                       | 7.6                         | 148.7                        | 138.00                       | <1             |
|                     | SLSQ-50.8B-200P | $\phi 50.8$            | 201.1                 | 2.9                       | 6.4                         | 198.9                        | 184.00                       | <1             |
|                     | SLSQ-50.8B-250P | $\phi 50.8$            | 251.0                 | 3.0                       | 5.8                         | 249.0                        | 230.00                       | <1             |
|                     | SLSQ-50.8B-300P | $\phi 50.8$            | 300.9                 | 3.0                       | 5.3                         | 298.8                        | 276.00                       | <1             |

## Compatible Optic Mounts

LHF-25.4S, -30S, -40S, -50S, -50.8S