

Reasonable Plano Convex Lens

S-SLB-P/S-SLB-B-P

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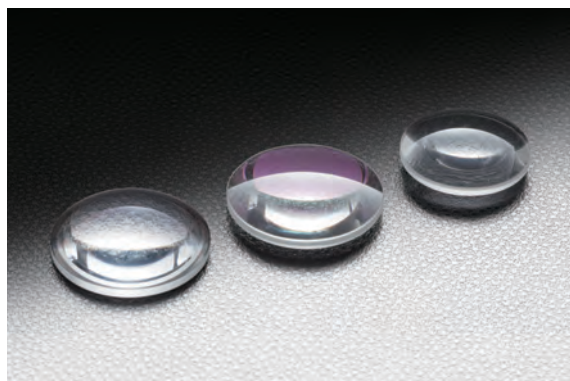
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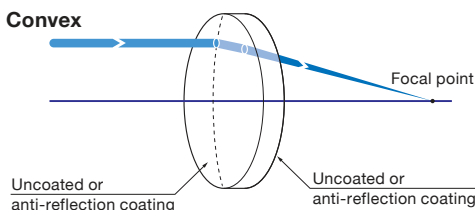
This lower cost product offering of Plano Convex Lenses has only minimal reduction in quality and is perfect for most applications.

It can be used in an optical systems such as observation or lighting applications when the higher surface quality Plano Convex Lens (SLB-P) is not required.

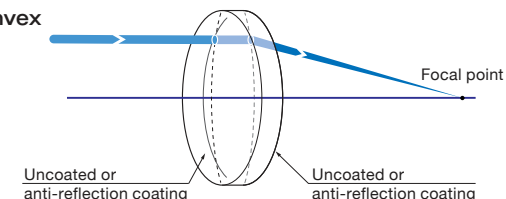


Schematic

Plano Convex



Biconvex



- It has the same specification of Plano Convex Lens (SLB-P) except the surface quality and is ideal for experiments and applications where high-precision is not required.
- There are two types of lens offer, a Plano convex lens with low spherical aberration and a biconvex lens that is used to shorten the focal length.
- In addition to uncoated products, there are three types of anti-reflection coating for visible, near-infrared, and infrared.

Specifications

Material	BK7
Design Wavelength	546.1nm
Refractive Index	$n_e=1.519$
Centration	<3'
Coating	Uncoated: the end of the part number 'P' Anti-reflection coating: the end of the part number 'PM', 'PIR1', 'PIR2'
Laser Damage Threshold	Anti-reflection coating: $4\text{J}/\text{cm}^2$ Laser pulse with 10ns, repetition frequency 20Hz
Clear Aperture	90% of actual aperture: Uncoated 85% of actual aperture: with coating, $\phi 10 \leq D$ 83% of actual aperture: with coating, $D < \phi 10$
Surface Quality (Scratch-Dig)	60-40

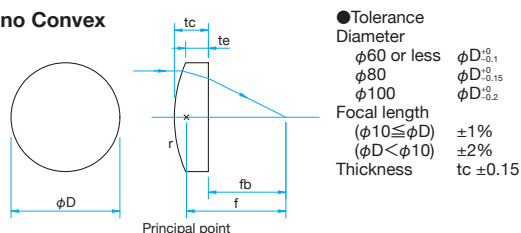
Attention

- ▶ Plano convex lens and biconvex spherical lens have 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 W3041
- ▶ 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.

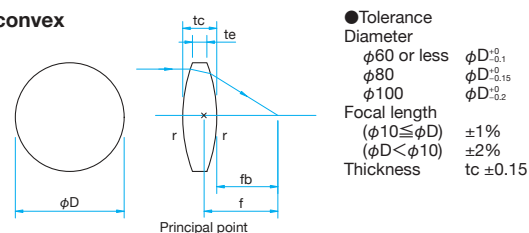
Outline Drawing

(in mm)

Plano Convex



Biconvex



How to specify the anti-reflection coating

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

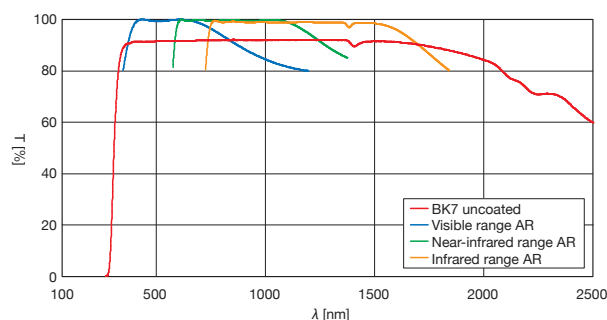
Type of AR Coat	Part Number	Wavelength Range [nm]	Transmittance [%]
Visible range	S-SLB-100-500PM	400 – 700	> Average 99
Near-infrared	S-SLB-100-500PIR1	633 – 1064	> Average 98.5
Infrared	S-SLB-100-500PIR2	750 – 1550	> Average 98.5

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

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

Typical Transmittance Data

T: Transmittance



Plano Convex Lens $\phi 6 - \phi 25$

Uncoated	How to specify the anti-reflection coating			Diameter ϕD [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]
Part Number	Visibe 400 – 700nm	Near-infrared 633 – 1064nm	Infrared 750 – 1550nm						
S-SLB-06-08P	M	IR1	IR2	$\phi 6$	8	1.0	2.3	6.5	4.15
S-SLB-06-10P	M	IR1	IR2	$\phi 6$	10	1.0	2.0	8.7	5.19
S-SLB-07-20P	M	IR1	IR2	$\phi 7$	20	1.7	2.3	18.5	10.38
S-SLB-07-40P	M	IR1	IR2	$\phi 7$	40	1.6	1.9	38.8	20.76
S-SLB-08-10P	M	IR1	IR2	$\phi 8$	10	1.5	3.4	7.8	5.19
S-SLB-08-15P	M	IR1	IR2	$\phi 8$	15	1.5	2.6	13.3	7.79
S-SLB-08-25P	M	IR1	IR2	$\phi 8$	25	1.5	2.1	23.6	12.98
S-SLB-08-40P	M	IR1	IR2	$\phi 8$	40	1.5	1.9	38.8	20.76
S-SLB-10-15P	M	IR1	IR2	$\phi 10$	15	2.0	3.8	12.5	7.79
S-SLB-10-20P	M	IR1	IR2	$\phi 10$	20	2.0	3.3	17.8	10.38
S-SLB-10-25P	M	IR1	IR2	$\phi 10$	25	2.0	3.0	23.0	12.98
S-SLB-10-30P	M	IR1	IR2	$\phi 10$	30	2.0	2.8	28.1	15.57
S-SLB-10-40P	M	IR1	IR2	$\phi 10$	40	2.0	2.6	38.3	20.76
S-SLB-10-50P	M	IR1	IR2	$\phi 10$	50	2.0	2.5	48.4	25.95
S-SLB-10-60P	M	IR1	IR2	$\phi 10$	60	2.0	2.4	58.4	31.14
S-SLB-10-70P	M	IR1	IR2	$\phi 10$	70	2.0	2.3	68.5	36.33
S-SLB-10-100P	M	IR1	IR2	$\phi 10$	100	2.0	2.2	98.5	51.90
S-SLB-15-20P	M	IR1	IR2	$\phi 15$	20	2.0	5.2	16.6	10.38
S-SLB-15-25P	M	IR1	IR2	$\phi 15$	25	2.0	4.4	22.1	12.98
S-SLB-15-30P	M	IR1	IR2	$\phi 15$	30	2.0	3.9	27.4	15.57
S-SLB-15-40P	M	IR1	IR2	$\phi 15$	40	2.0	3.4	37.8	20.76
S-SLB-15-50P	M	IR1	IR2	$\phi 15$	50	2.0	3.1	48.0	25.95
S-SLB-15-60P	M	IR1	IR2	$\phi 15$	60	2.0	2.9	58.1	31.14
S-SLB-15-70P	M	IR1	IR2	$\phi 15$	70	2.0	2.8	68.2	36.33
S-SLB-15-80P	M	IR1	IR2	$\phi 15$	80	2.0	2.7	78.2	41.52
S-SLB-15-90P	M	IR1	IR2	$\phi 15$	90	2.0	2.6	88.3	46.71
S-SLB-15-100P	M	IR1	IR2	$\phi 15$	100	2.0	2.5	98.3	51.90
S-SLB-15-120P	M	IR1	IR2	$\phi 15$	120	2.0	2.5	118.4	62.28
S-SLB-15-150P	M	IR1	IR2	$\phi 15$	150	2.0	2.4	148.4	77.85
S-SLB-20-25P	M	IR1	IR2	$\phi 20$	25	2.0	6.7	20.6	12.98
S-SLB-20-30P	M	IR1	IR2	$\phi 20$	30	2.0	5.6	26.3	15.57
S-SLB-20-40P	M	IR1	IR2	$\phi 20$	40	2.0	4.6	37.0	20.76
S-SLB-20-50P	M	IR1	IR2	$\phi 20$	50	2.0	4.0	47.4	25.95
S-SLB-20-60P	M	IR1	IR2	$\phi 20$	60	2.0	3.6	57.6	31.14
S-SLB-20-70P	M	IR1	IR2	$\phi 20$	70	2.0	3.4	67.8	36.33
S-SLB-20-80P	M	IR1	IR2	$\phi 20$	80	2.0	3.2	77.9	41.52
S-SLB-20-90P	M	IR1	IR2	$\phi 20$	90	2.0	3.1	88.0	46.71
S-SLB-20-100P	M	IR1	IR2	$\phi 20$	100	2.0	3.0	98.0	51.90
S-SLB-20-120P	M	IR1	IR2	$\phi 20$	120	2.0	2.8	118.2	62.28
S-SLB-20-150P	M	IR1	IR2	$\phi 20$	150	2.0	2.6	148.3	77.85
S-SLB-20-170P	M	IR1	IR2	$\phi 20$	170	2.0	2.6	168.2	88.23
S-SLB-20-200P	M	IR1	IR2	$\phi 20$	200	2.0	2.5	198.4	103.80
S-SLB-25-30P	M	IR1	IR2	$\phi 25$	30	2.0	8.3	24.5	15.57
S-SLB-25-35P	M	IR1	IR2	$\phi 25$	35	2.0	7.0	30.4	18.17
S-SLB-25-40P	M	IR1	IR2	$\phi 25$	40	2.0	6.2	36.0	20.76
S-SLB-25-50P	M	IR1	IR2	$\phi 25$	50	2.0	5.2	46.6	25.95
S-SLB-25-70P	M	IR1	IR2	$\phi 25$	70	2.0	4.2	67.2	36.33
S-SLB-25-80P	M	IR1	IR2	$\phi 25$	80	2.0	3.9	77.4	41.52
S-SLB-25-90P	M	IR1	IR2	$\phi 25$	90	2.0	3.7	87.6	46.71
S-SLB-25-100P	M	IR1	IR2	$\phi 25$	100	2.0	3.5	97.7	51.90
S-SLB-25-120P	M	IR1	IR2	$\phi 25$	120	2.0	3.3	117.8	62.28
S-SLB-25-150P	M	IR1	IR2	$\phi 25$	150	2.0	3.0	148.0	77.85
S-SLB-25-200P	M	IR1	IR2	$\phi 25$	200	2.0	2.8	198.2	103.80

Compatible Optic Mounts

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

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Reasonable Plano Convex Lens

S-SLB-P/S-SLB-B-P

Catalog Code

W3220

Plano Convex Lens $\phi 30 - \phi 100$										
Uncoated		How to specify the anti-reflection coating			Diameter ϕD [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]
Part Number	Visibe 400 – 700nm	Near-infrared 633 – 1064nm	Infrared 750 – 1550nm							
S-SLB-30-35P	M	IR1	IR2	$\phi 30$	35	2.0	9.9	28.5	18.17	
S-SLB-30-40P	M	IR1	IR2	$\phi 30$	40	2.0	8.4	34.5	20.76	
S-SLB-30-50P	M	IR1	IR2	$\phi 30$	50	2.0	6.8	45.5	25.95	
S-SLB-30-60P	M	IR1	IR2	$\phi 30$	60	2.0	5.9	56.1	31.14	
S-SLB-30-70P	M	IR1	IR2	$\phi 30$	70	2.0	5.2	66.5	36.33	
S-SLB-30-80P	M	IR1	IR2	$\phi 30$	80	2.0	4.8	76.8	41.52	
S-SLB-30-90P	M	IR1	IR2	$\phi 30$	90	2.0	4.5	87.1	46.71	
S-SLB-30-100P	M	IR1	IR2	$\phi 30$	100	2.0	4.2	97.2	51.90	
S-SLB-30-120P	M	IR1	IR2	$\phi 30$	120	2.0	3.8	117.5	62.28	
S-SLB-30-150P	M	IR1	IR2	$\phi 30$	150	2.0	3.5	147.7	77.85	
S-SLB-30-170P	M	IR1	IR2	$\phi 30$	170	2.0	3.3	167.8	88.23	
S-SLB-30-200P	M	IR1	IR2	$\phi 30$	200	2.0	3.1	198.0	103.80	
S-SLB-30-250P	M	IR1	IR2	$\phi 30$	250	2.0	2.9	248.1	129.75	
S-SLB-30-300P	M	IR1	IR2	$\phi 30$	300	2.0	2.7	298.2	155.70	
S-SLB-30-350P	M	IR1	IR2	$\phi 30$	350	2.0	2.6	348.3	181.65	
S-SLB-40-50P	M	IR1	IR2	$\phi 40$	50	2.0	11.4	42.5	25.95	
S-SLB-40-60P	M	IR1	IR2	$\phi 40$	60	2.0	9.3	53.9	31.14	
S-SLB-40-70P	M	IR1	IR2	$\phi 40$	70	2.0	8.0	64.7	36.33	
S-SLB-40-80P	M	IR1	IR2	$\phi 40$	80	2.0	7.1	75.3	41.52	
S-SLB-40-90P	M	IR1	IR2	$\phi 40$	90	2.0	6.5	85.7	46.71	
S-SLB-40-100P	M	IR1	IR2	$\phi 40$	100	2.0	6.0	96.0	51.90	
S-SLB-40-120P	M	IR1	IR2	$\phi 40$	120	2.0	5.3	116.5	62.28	
S-SLB-40-150P	M	IR1	IR2	$\phi 40$	150	2.0	4.6	147	77.85	
S-SLB-40-170P	M	IR1	IR2	$\phi 40$	170	2.0	4.3	167.2	88.23	
S-SLB-40-200P	M	IR1	IR2	$\phi 40$	200	2.0	3.9	197.4	103.80	
S-SLB-40-250P	M	IR1	IR2	$\phi 40$	250	2.0	3.6	247.7	129.75	
S-SLB-40-1000P	M	IR1	IR2	$\phi 40$	1000	2.0	2.4	998.4	519.00	
S-SLB-50-70P	M	IR1	IR2	$\phi 50$	70	3.0	13.0	61.5	36.33	
S-SLB-50-90P	M	IR1	IR2	$\phi 50$	90	3.0	10.3	83.2	46.71	
S-SLB-50-100P	M	IR1	IR2	$\phi 50$	100	3.0	9.4	93.8	51.90	
S-SLB-50-120P	M	IR1	IR2	$\phi 50$	120	3.0	8.2	114.6	62.28	
S-SLB-50-150P	M	IR1	IR2	$\phi 50$	150	3.0	7.1	145.3	77.85	
S-SLB-50-170P	M	IR1	IR2	$\phi 50$	170	3.0	6.6	165.6	88.23	
S-SLB-50-200P	M	IR1	IR2	$\phi 50$	200	3.0	6.1	196.0	103.80	
S-SLB-60-70P	M	IR1	IR2	$\phi 60$	70	3.0	18.8	57.6	36.33	
S-SLB-60-100P	M	IR1	IR2	$\phi 60$	100	3.0	12.5	91.7	51.90	
S-SLB-60-120P	M	IR1	IR2	$\phi 60$	120	3.0	10.7	113.0	62.28	
S-SLB-60-150P	M	IR1	IR2	$\phi 60$	150	3.0	9.0	144.1	77.85	
S-SLB-80-150P	M	IR1	IR2	$\phi 80$	150	3.0	14.1	140.8	77.85	
S-SLB-80-250P	M	IR1	IR2	$\phi 80$	250	3.0	9.3	243.9	129.75	
S-SLB-100-150P	M	IR1	IR2	$\phi 100$	150	3.0	21.2	136.1	77.85	
S-SLB-100-200P	M	IR1	IR2	$\phi 100$	200	3.0	15.8	189.6	103.80	
S-SLB-100-250P	M	IR1	IR2	$\phi 100$	250	3.0	13.0	241.4	129.75	
S-SLB-100-300P	M	IR1	IR2	$\phi 100$	300	3.0	11.2	292.6	155.70	
S-SLB-100-500P	M	IR1	IR2	$\phi 100$	500	3.0	7.9	494.8	259.50	
S-SLB-100-1000P	M	IR1	IR2	$\phi 100$	1000	3.0	5.4	996.4	519.00	

Biconvex Lens									
Uncoated	How to specify the anti-reflection coating			Diameter ϕD [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]
Part Number	Visibe 400 – 700nm	Near-infrared 633 – 1064nm	Infrared 750 – 1550nm						
S-SLB-05B-08P	M	IR1	IR2	$\phi 5$	8.4	1.4	2.1	7.6	8.30
S-SLB-05B-20P	M	IR1	IR2	$\phi 5$	20.2	1.1	1.4	19.8	20.76
S-SLB-06B-06P	M	IR1	IR2	$\phi 6$	6.4	1.0	2.5	5.6	6.23
S-SLB-08B-08P	M	IR1	IR2	$\phi 8$	8.6	1.5	3.6	7.4	8.30
S-SLB-10B-10P	M	IR1	IR2	$\phi 10$	10.8	2.0	4.6	9.2	10.38
S-SLB-10B-15P	M	IR1	IR2	$\phi 10$	15.6	2.0	3.6	14.4	15.57
S-SLB-10B-20P	M	IR1	IR2	$\phi 10$	20.5	2.0	3.2	19.5	20.76
S-SLB-10B-40P	M	IR1	IR2	$\phi 10$	40.4	2.0	2.6	39.6	41.52
S-SLB-15B-15P	M	IR1	IR2	$\phi 15$	16	2.0	5.9	14.0	15.57
S-SLB-15B-20P	M	IR1	IR2	$\phi 15$	20.8	2.0	4.8	19.2	20.76
S-SLB-15B-30P	M	IR1	IR2	$\phi 15$	30.6	2.0	3.8	29.4	31.14
S-SLB-15B-40P	M	IR1	IR2	$\phi 15$	40.6	2.0	3.4	39.4	41.52
S-SLB-20B-30P	M	IR1	IR2	$\phi 20$	31	2.0	5.3	29.1	31.14
S-SLB-20B-40P	M	IR1	IR2	$\phi 20$	40.7	2.0	4.4	39.3	41.52
S-SLB-20B-50P	M	IR1	IR2	$\phi 20$	50.7	2.0	3.9	49.3	51.90
S-SLB-25B-35P	M	IR1	IR2	$\phi 25$	36.1	2.0	6.4	33.9	36.33
S-SLB-25B-50P	M	IR1	IR2	$\phi 25$	50.8	2.0	5.1	49.2	51.90
S-SLB-25B-60P	M	IR1	IR2	$\phi 25$	60.8	2.0	4.5	59.2	62.28
S-SLB-25B-70P	M	IR1	IR2	$\phi 25$	70.7	2.0	4.2	69.3	72.66
S-SLB-30B-30P	M	IR1	IR2	$\phi 30$	31.7	2.0	9.7	28.3	31.14
S-SLB-30B-40P	M	IR1	IR2	$\phi 30$	41.3	2.0	7.6	38.7	41.52
S-SLB-40B-40P	M	IR1	IR2	$\phi 40$	42.1	2.0	12.3	37.9	41.52
S-SLB-40B-50P	M	IR1	IR2	$\phi 40$	51.7	2.0	10.0	48.3	51.90
S-SLB-40B-60P	M	IR1	IR2	$\phi 40$	61.4	2.0	8.6	58.6	62.28
S-SLB-40B-100P	M	IR1	IR2	$\phi 40$	101	2.0	5.9	99.0	103.80
S-SLB-40B-150P	M	IR1	IR2	$\phi 40$	150.8	2.0	4.6	149.2	155.70
S-SLB-50B-150P	M	IR1	IR2	$\phi 50$	151.2	3.0	7.0	148.8	155.70
S-SLB-50B-200P	M	IR1	IR2	$\phi 50$	201	3.0	6.0	199.0	207.60

Compatible Optic Mounts

LHF-10S, -15S, -20S, -25S, -30S, -40S, -50S / MLH-10, -15

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