

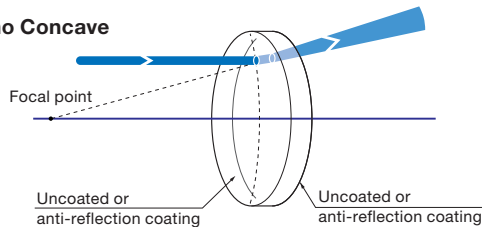
This lower cost product offering of Plano Convex Lenses has only minimal reduction in quality and is perfect for most applications.

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

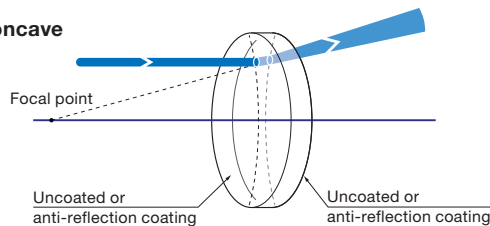


Schematic

Plano Concave



Biconcave



- It has the same specification of Plano Convex Lens (SLB-N) 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 'N' Anti-reflection coating: the end of the part number 'NM', 'NIR1', 'NIR2'
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

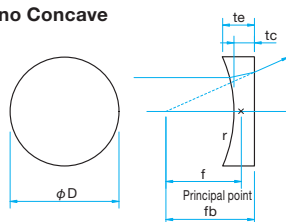
Attention

- ▶ Biconcave 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.
- ▶ 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.
- ▶ The outer edge of the concave side is chamfered and the result is possibility that the lens may have a smaller edge thickness for this design.

Outline Drawing

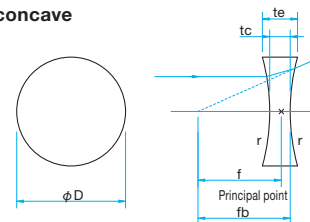
(in mm)

Plano Concave



- Tolerance
Diameter $\phi D_{\pm 0.1}$
Focal length $\pm 1\%$
Thickness $tc \pm 0.15$

Biconcave



- Tolerance
Diameter $\phi D_{\pm 0.1}$
Focal length $\pm 1\%$
Thickness $tc \pm 0.15$

How to specify the anti-reflection coating

In case of specifying a anti-reflection coating 633nm – 1064nm to near infrared lens of S-SLB-30-200N.
⇒ S-SLB-30-200NIR1

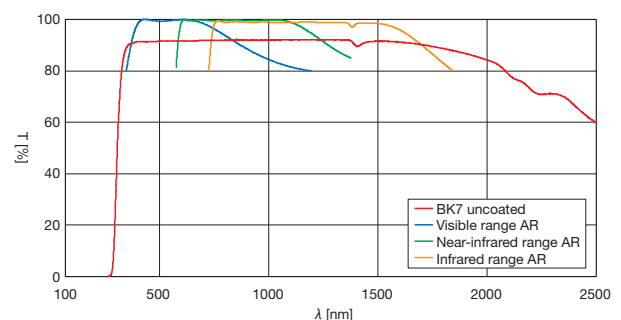
Type of AR Coat	Part Number	Wavelength Range [nm]	Transmittance [%]
Visible range	S-SLB-30-200NM	400 – 700	> Average 99
Near-infrared	S-SLB-30-200NIR1	633 – 1064	> Average 98.5
Infrared	S-SLB-30-200NIR2	750 – 1550	> Average 98.5

! Part of the above is an example of if you want to coat anti-reflective coating on the lens of the S-SLB-30-200N.

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

Typical Transmittance Data

T: Transmission



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 Lenses

Cylindrical

Others



Plano Concave 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	Visible 400 – 700nm	Near-infrared 633 – 1064nm						
S-SLB-10-15N	M	IR1	IR2	$\phi 10$	-15	3.8	2.0	-16.3	7.79
S-SLB-10-20N	M	IR1	IR2	$\phi 10$	-20	3.3	2.0	-21.3	10.38
S-SLB-10-30N	M	IR1	IR2	$\phi 10$	-30	2.8	2.0	-31.3	15.57
S-SLB-10-100N	M	IR1	IR2	$\phi 10$	-100	2.2	2.0	-101.3	51.90
S-SLB-15-25N	M	IR1	IR2	$\phi 15$	-25	4.4	2.0	-26.3	12.98
S-SLB-15-30N	M	IR1	IR2	$\phi 15$	-30	3.9	2.0	-31.3	15.57
S-SLB-20-25N	M	IR1	IR2	$\phi 20$	-25	6.7	2.0	-26.3	12.98
S-SLB-20-30N	M	IR1	IR2	$\phi 20$	-30	5.6	2.0	-31.3	15.57
S-SLB-20-40N	M	IR1	IR2	$\phi 20$	-40	4.6	2.0	-41.3	20.76
S-SLB-20-50N	M	IR1	IR2	$\phi 20$	-50	4.0	2.0	-51.3	25.95
S-SLB-20-60N	M	IR1	IR2	$\phi 20$	-60	3.6	2.0	-61.3	31.14
S-SLB-25-40N	M	IR1	IR2	$\phi 25$	-40	6.2	2.0	-41.3	20.76
S-SLB-30-60N	M	IR1	IR2	$\phi 30$	-60	5.9	2.0	-61.3	31.14
S-SLB-30-200N	M	IR1	IR2	$\phi 30$	-200	3.1	2.0	-201.3	103.80

Biconcave 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	Visible 400 – 700nm	Near-infrared 633 – 1064nm						
S-SLB-10B-10N	M	IR1	IR2	$\phi 10$	-9.7	4.6	2.0	-10.3	10.38
S-SLB-15B-15N	M	IR1	IR2	$\phi 15$	-14.7	5.9	2.0	-15.3	15.57
S-SLB-20B-50N	M	IR1	IR2	$\phi 20$	-49.7	3.9	2.0	-50.3	51.90
S-SLB-30B-100N	M	IR1	IR2	$\phi 30$	-99.7	4.2	2.0	-100.3	103.80

Compatible Optic Mounts

LHF-10S, -15S, -20S, -25S, -30S

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