Micro Lenses | SLM

RoHS

Micro lenses are spherical plano convex/biconvex lenses with diameters smaller than 4mm. These small lenses are designed for use in equipment and instruments that demand lighter and smaller footprint optics.

- Spherical plano convex lenses are useful when parallel beams are converged or lights from sources are converted to parallel beams, i.e., at infinite conjugate ratios.
- Spherical biconvex lenses are useful when lights from sources are converged or images are relayed to other optical systems, i.e., at unit conjugate ratios.
- Since these lenses are designed at the wavelength 587.6nm (yellow helium line [d]), the focal lengths of them vary at other wavelengths.

Specifications

Material	LaSF9, SK2, BK7
Design wavelength	587.6nm
Coating	Uncoated
Centration	Please contact
Surface Quality (Scratch–Dig)	40–20

Guide

▶In addition to our standard products listed on-line and in the catalog, custom products are available. Please contact our Sales Division for assistance with your request.

Attention

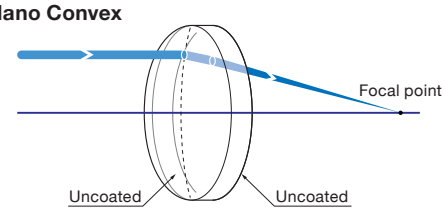
▶The micro lenses have spherical aberration and the focal length will vary depending on the wavelength. Please check the "wavelength characteristic of the focal length data" on the Web for the focal lengths of each wavelength. WEB Reference Catalog Code W3072

▶The plano convex lenses are designed for parallel light to be incident to the convex surface. Using the lens in reverse may increase the spherical aberration and the focused spot may enlarge and the image will appear out of focus.

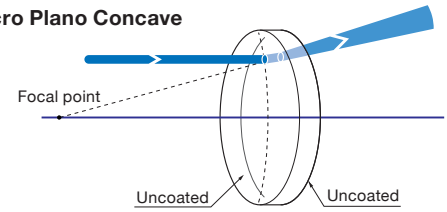
▶Transmissions losses due to reflection off the front and rear surfaces of the lens can be minimized by coating the surfaces. Consult our SalesDivision for anti-reflection coatings suitable for your application.

Schematic

Micro Plano Convex

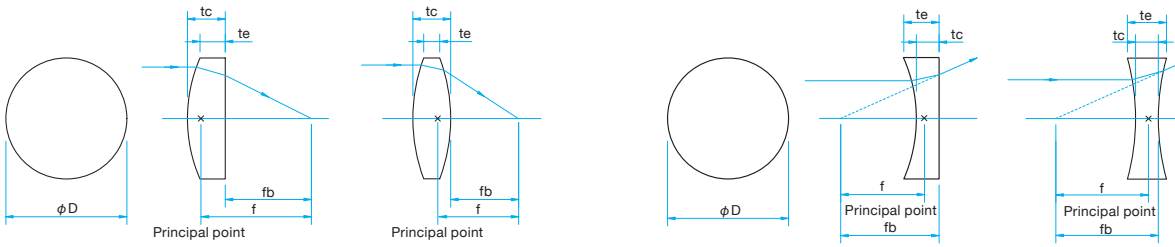


Micro Plano Concave



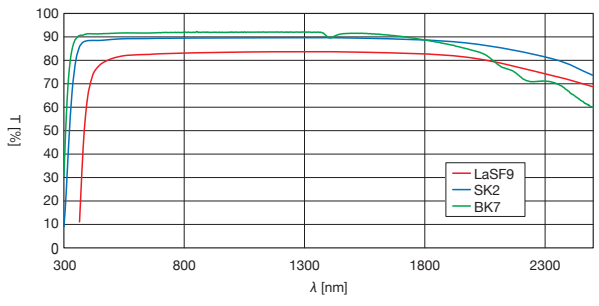
Outline Drawing

(in mm)



●Tolerance
Diameter $\phi D^{0}_{-0.2}$ Thickness tc ±0.2 Focal length ±5%

Typical Transmittance Data T: Transmission



Plano Convex

Part Number	Diameter ϕD [mm]	Focal length f [mm]	Back focal length fb [mm]	Edge thickness te [mm]	Center thickness tc [mm]	Material	Radius of curvature r [mm]
SLM-1.5-01P	ϕ1.5	1.0	0.56	0.35	0.8	LaSF9	0.85
SLM-1.5-1.5P	ϕ1.5	1.5	0.44	1.65	1.9	LaSF9	1.25
SLM-02-1.5P	ϕ2	1.5	0.5	1.4	1.9	LaSF9	1.28
SLM-02-02P	ϕ2	2.0	1.2	1.2	1.5	LaSF9	1.70
SLM-02-2.5P	ϕ2	2.5	1.6	1.3	1.6	LaSF9	2.13
SLM-02-03P	ϕ2	3.0	2.2	1.0	1.3	LaSF9	2.55
SLM-03-2.5P	ϕ3	2.5	1.4	1.5	2.1	LaSF9	2.13
SLM-03-03P	ϕ3	3.0	1.9	1.5	2.0	LaSF9	2.55
SLM-03-04P	ϕ3	4.0	3.3	1.0	1.3	LaSF9	3.40
SLM-03-06P	ϕ3	6.0	5.1	1.1	1.4	SK2	3.64
SLM-04-04P	ϕ4	4.0	2.5	1.5	2.5	SK2	2.43
SLM-04-06P	ϕ4	6.0	5.0	0.7	1.3	SK2	3.64
SLM-04-08P	ϕ4	8.0	7.1	1.1	1.5	SK2	4.86
SLM-04-10P	ϕ4	10.0	9.1	1.2	1.5	SK2	6.07

Biconvex

Part Number	Diameter ϕD [mm]	Focal length f [mm]	Back focal length fb [mm]	Edge thickness te [mm]	Center thickness tc [mm]	Material	Radius of curvature r [mm]
SLM-03B-03P	ϕ3	3	2.4	1.1	1.8	SK2	3.26
SLM-03B-04P	ϕ3	4	3.4	1.2	1.8	BK7	3.80
SLM-03B-06P	ϕ3	6	5.5	1.1	1.5	BK7	5.93
SLM-04B-04P	ϕ4	4	3.2	1.2	2.2	SK2	4.40
SLM-04B-06P	ϕ4	6	5.4	1.2	1.9	BK7	5.86
SLM-04B-08P	ϕ4	8	7.4	1.2	1.7	BK7	7.97

Plano Concave

Part Number	Diameter ϕD [mm]	Focal length f [mm]	Back focal length fb [mm]	Edge thickness te [mm]	Center thickness tc [mm]	Material	Radius of curvature r [mm]
SLM-02-04N	ϕ2	–4	–4.40	0.95	0.8	LaSF9	–3.40
SLM-03-06N	ϕ3	–6	–6.39	1.03	0.8	LaSF9	–5.10
SLM-04-08N	ϕ4	–8	–8.37	1.10	0.8	LaSF9	–6.80

Biconcave

Part Number	Diameter ϕD [mm]	Focal length f [mm]	Back focal length fb [mm]	Edge thickness te [mm]	Center thickness tc [mm]	Material	Radius of curvature r [mm]
SLM-02B-02N	ϕ2	–2	–2.13	0.99	0.7	LaSF9	–3.50
SLM-04B-04N	ϕ4	–4	–4.16	1.39	0.8	LaSF9	–6.94

Compatible Optic Mounts

MLH-10, -15