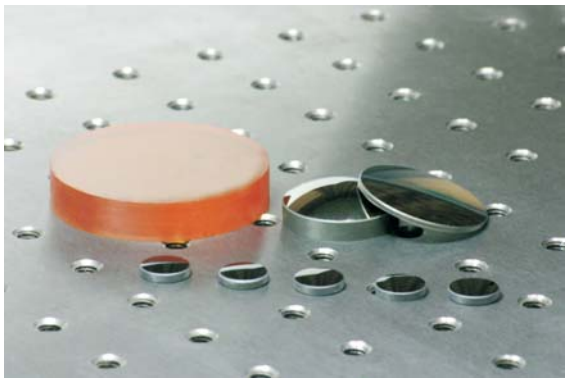
Lens

Lens Overview

Lens can converge or diverge the transmission beam and form image of the object, Which is widely used in various applications.
Usually lenses are not only used in visible band, but also in IR band and UV band, that means special material should be used. Now, Union Optic can offer lenses made of various materials such as CaF_2, MgF_2, Sapphire, Silicon, Germanium, ZnSe and etc. Union Optic can also provide various coatings for lenses upon your request.



Spherical Lens

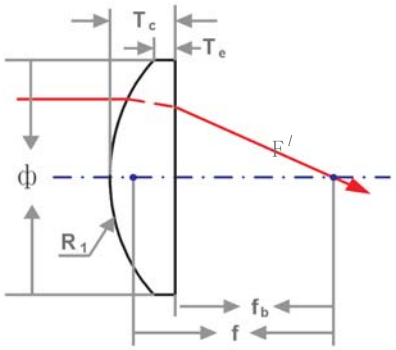
Specifications

Dimension Tolerance	+0/-0.2mm
Thickness Tolerance	±0.2mm
Radius Tolerance	±0.5%
Surface Quality	60/40 Scratch and Dig
Power (fringe@633nm)	3
Irregularity (fringe@633nm)	0.5
Centration	<3 arc minutes
Focal Length Tolerance	±2%
Clear Aperture	>90%
Chamfer	Protective<0.5mmx45deg

Union Optic provides some stocked standard lenses for your selection, including BK7 series and fused silica series. And also we make custom lens for you! Call us for your special request.

Plano Convex Spherical Lens -BK7

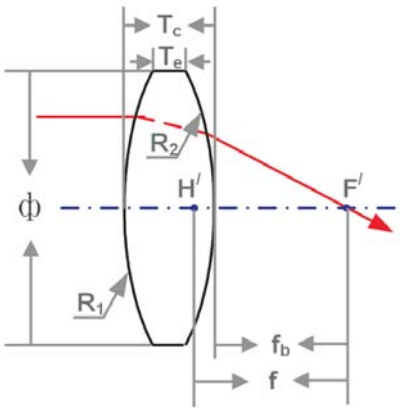
Material	BK7
Dimension Tolerance	+0/-0.2mm
Thickness Tolerance	±0.2mm
Design Wavelength	546.1nm
Surface Quality	60/40 scratch and dig
Flatness	λ/4@632.8nm
Centration	<3 arc minutes
Focal Length Tolerance	±2%
Clear Aperture	>90%
Chamfer	Protective <0.5mm x 45deg
Coating	None



Part No.	f(mm)	Φ(mm)	R1(mm)	Tc(mm)	Te(mm)	fb(mm)
PCX0801	25.4	25.4	13.17	11.7	2.0	17.7
PCX0802	35.0	25.4	18.14	7.2	2.0	30.3
PCX0803	40.0	25.4	20.75	6.3	2.0	35.8
PCX0804	50.0	25.4	25.92	5.3	2.0	46.5
PCX0805	60.0	25.4	31.10	4.7	2.0	56.9
PCX0806	75.0	25.4	38.87	4.1	2.0	72.3
PCX0807	100.0	25.4	51.83	3.6	2.0	97.6
PCX0808	125.0	25.4	64.79	3.3	2.0	122.8
PCX0809	150.0	25.4	77.75	3.0	2.0	148.0
PCX0810	200.0	25.4	103.66	2.8	2.0	198.2
PCX0811	250.0	25.4	129.58	2.6	2.0	248.3
PCX0812	300.0	25.4	155.49	2.5	2.0	298.4
PCX0813	500.0	25.4	259.15	2.3	2.0	498.5
PCX0814	1000.0	25.4	518.30	2.2	2.0	998.6
PCX0815	2000.0	25.4	1037.00	2.1	2.0	1998.6
PCX0816	5000.0	25.4	2591.00	2.1	2.0	4998.6

Double Convex Spherical Lens -BK7

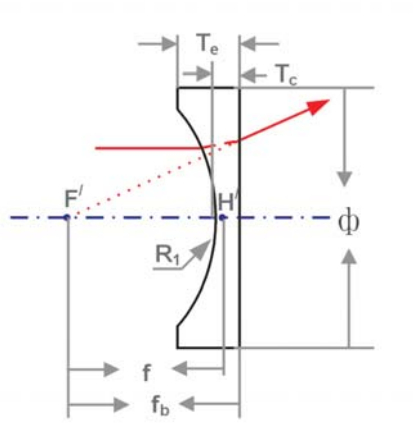
Material	BK7
Dimension Tolerance	+0/-0.2mm
Thickness Tolerance	±0.2mm
Design Wavelength	546.1nm
Surface Quality	60/40 scratch and dig
Flatness	λ/4@632.8nm
Centration	<3 arc minutes
Focal Length Tolerance	±2%
Clear Aperture	>90%
Chamfer	Protective <0.5mm x 45deg
Coating	None



Part No.	f(mm)	Φ(mm)	R1=R2 (mm)	Tc(mm)	Te(mm)	fb(mm)
DCX0801	25.4	25.4	24.71	9.0	2.0	22.2
DCX0802	35.0	25.4	35.09	6.8	2.0	32.7
DCX0803	50.0	25.4	50.92	5.2	2.0	48.3
DCX0804	75.0	25.4	77.04	4.1	2.0	73.6
DCX0805	100.0	25.4	103.05	3.6	2.0	98.8
DCX0806	125.0	25.4	129.02	3.3	2.0	123.9
DCX0807	150.0	25.4	154.97	3.0	2.0	149.0
DCX0808	200.0	25.4	206.84	2.8	2.0	199.0
DCX0809	250.0	25.4	258.70	2.6	2.0	249.1
DCX0810	300.0	25.4	310.55	2.5	2.0	299.2
DCX0811	500.0	25.4	517.91	2.3	2.0	499.2
DCX0812	1000.0	25.4	1036.23	2.2	2.0	999.3

Plano Concave Spherical Lens -BK7

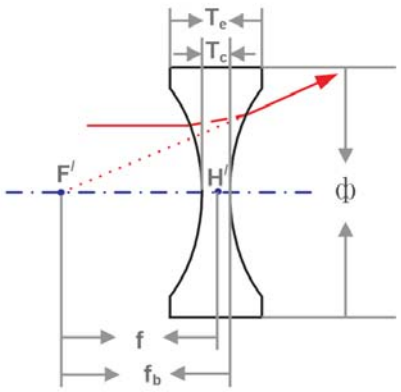
Material	BK7
Dimension Tolerance	+0/-0.2mm
Thickness Tolerance	±0.2mm
Design Wavelength	546.1nm
Surface Quality	60/40 scratch and dig
Flatness	λ/4@632.8nm
Centration	<3 arc minutes
Focal Length Tolerance	±2%
Clear Aperture	>90%
Chamfer	Protective <0.5mm x 45deg
Coating	None



Part No.	f(mm)	Φ(mm)	R1(mm)	Tc(mm)	Te(mm)	fb(mm)
PCV0801	-35.0	25.4	18.14	2.0	7.2	-36.3
PCV0802	-50.0	25.4	25.92	2.0	5.3	-51.3
PCV0803	-75.0	25.4	38.87	2.0	4.1	-76.3
PCV0804	-100.0	25.4	51.83	2.0	3.6	-101.3
PCV0805	-125.0	25.4	64.79	2.0	3.3	-126.3
PCV0806	-150.0	25.4	77.75	2.0	3.0	-151.3
PCV0807	-200.0	25.4	103.66	2.0	2.7	-201.3
PCV0808	-250.0	25.4	129.58	2.0	2.6	-251.3
PCV0809	-300.0	25.4	155.49	2.0	2.5	-301.3
PCV0810	-500.0	25.4	259.15	2.0	2.3	-501.3
PCV0811	-1000.0	25.4	518.30	2.0	2.2	-1001.3

Double Concave Spherical Lens -BK7

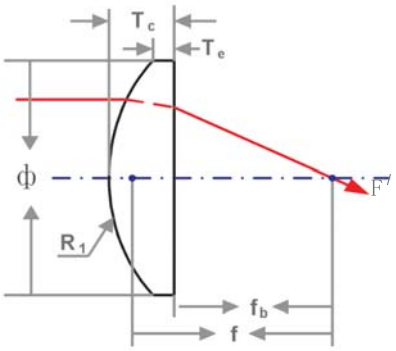
Material	BK7
Dimension Tolerance	+0/-0.2mm
Thickness Tolerance	±0.2mm
Design Wavelength	546.1nm
Surface Quality	60/40 scratch and dig
Flatness	λ/4@632.8nm
Centration	<3 arc minutes
Focal Length Tolerance	±2%
Clear Aperture	>90%
Chamfer	Protective <0.5mm x 45deg
Coating	None



Part No.	f(mm)	Φ(mm)	R1=R2 (mm)	Tc(mm)	Te(mm)	fb(mm)
DCV0801	-35.0	25.4	36.62	2.0	6.5	-35.7
DCV0802	-50.0	25.4	52.17	2.0	5.1	-50.7
DCV0803	-75.0	25.4	78.09	2.0	4.1	-75.7
DCV0804	-100.0	25.4	104.00	2.0	3.6	-100.7
DCV0805	-125.0	25.4	129.92	2.0	3.2	-125.7
DCV0806	-150.0	25.4	155.83	2.0	3.0	-150.7
DCV0807	-200.0	25.4	207.66	2.0	2.8	-200.7
DCV0808	-250.0	25.4	259.49	2.0	2.6	-250.7
DCV0809	-300.0	25.4	311.32	2.0	2.5	-300.7
DCV0810	-500.0	25.4	518.64	2.0	2.3	-500.7
DCV0811	-1000.0	25.4	1036.94	2.0	2.2	-1000.7

Plano Convex Spherical Lens - Fused Silica

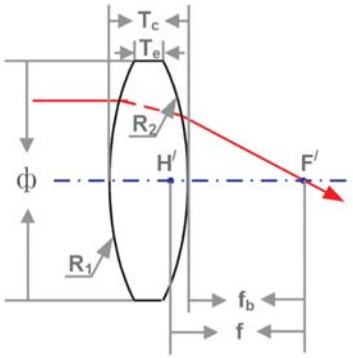
Material	UV Fused Silica
Dimension Tolerance	+0/-0.2mm
Thickness Tolerance	±0.2mm
Design Wavelength	546.1nm
Surface Quality	60/40 scratch and dig
Flatness	λ/4@632.8nm
Centration	<3 arc minutes
Focal Length Tolerance	±2%
Clear Aperture	>90%
Chamfer	Protective <0.5mm x 45deg
Coating	None



Part No.	f(mm)	Φ(mm)	R1(mm)	Tc(mm)	Te(mm)	fb(mm)
PCX1801	35.0	25.4	16.10	8.2	2.0	29.4
PCX1802	40.0	25.4	18.40	7.1	2.0	35.1
PCX1803	50.0	25.4	23.00	5.8	2.0	46.0
PCX1804	60.0	25.4	27.60	5.1	2.0	56.5
PCX1805	75.0	25.4	34.51	4.4	2.0	72.0
PCX1806	100.0	25.4	46.01	3.8	2.0	97.4
PCX1807	125.0	25.4	57.51	3.4	2.0	122.7
PCX1808	150.0	25.4	69.01	3.2	2.0	147.8
PCX1809	200.0	25.4	92.02	2.9	2.0	198.0
PCX1810	250.0	25.4	115.02	2.7	2.0	248.2
PCX1811	300.0	25.4	138.02	2.6	2.0	298.2
PCX1812	500.0	25.4	230.40	2.4	2.0	498.4
PCX1813	1000.0	25.4	460.08	2.2	2.0	998.5
PCX1814	2000.0	25.4	920.16	2.1	2.0	1998.6
PCX1815	5000.0	25.4	2300.40	2.1	2.0	4998.6

Double Convex Spherical Lens - Fused Silica

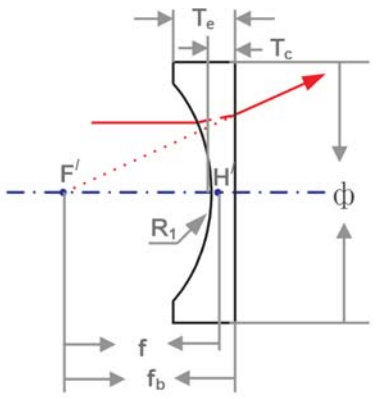
Material	UV Fused Silica
Dimension Tolerance	+0/-0.2mm
Thickness Tolerance	±0.2mm
Design Wavelength	546.1nm
Surface Quality	60/40 scratch and dig
Flatness	λ/4@632.8nm
Centration	<3 arc minutes
Focal Length Tolerance	±2%
Clear Aperture	>90%
Chamfer	Protective <0.5mm x 45deg
Coating	None



Part No.	f(mm)	Φ(mm)	R1=R2 (mm)	Tc(mm)	Te(mm)	fb(mm)
DCX1801	25.0	25.4	21.22	10.4	2.0	21.1
DCX1802	35.0	25.4	30.99	7.4	2.0	32.4
DCX1803	50.0	25.4	45.10	5.7	2.0	48.0
DCX1804	75.0	25.4	68.32	4.4	2.0	73.5
DCX1805	100.0	25.4	91.42	3.8	2.0	98.7
DCX1806	125.0	25.4	114.50	3.4	2.0	123.8
DCX1807	150.0	25.4	137.52	3.2	2.0	148.9
DCX1808	200.0	25.4	183.58	2.9	2.0	199.0
DCX1809	250.0	25.4	229.61	2.7	2.0	249.1
DCX1810	300.0	25.4	275.64	2.6	2.0	299.1
DCX1811	500.0	25.4	459.71	2.4	2.0	499.2
DCX1812	1000.0	25.4	919.82	2.2	2.0	999.2

Plano Concave Spherical Lens - Fused Silica

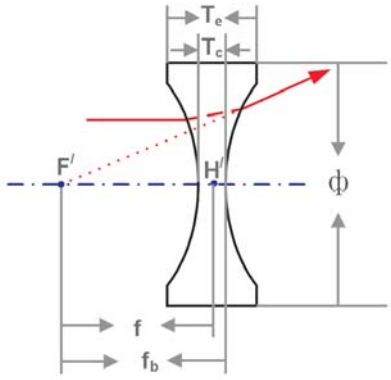
Material	UV Fused Silica
Dimension Tolerance	+0/-0.2mm
Thickness Tolerance	±0.2mm
Design Wavelength	546.1nm
Surface Quality	60/40 scratch and dig
Flatness	λ/4@632.8nm
Centration	<3 arc minutes
Focal Length Tolerance	±2%
Clear Aperture	>90%
Chamfer	Protective <0.5mm x 45deg
Coating	None



Part No.	f(mm)	Φ(mm)	R1(mm)	Tc(mm)	Te(mm)	fb(mm)
PCV1801	-35.0	25.4	16.10	2.0	8.2	-36.4
PCV1802	-50.0	25.4	23.00	2.0	5.8	-51.4
PCV1803	-75.0	25.4	34.51	2.0	4.4	-76.4
PCV1804	-100.0	25.4	46.01	2.0	3.8	-101.4
PCV1805	-125.0	25.4	57.51	2.0	3.4	-126.4
PCV1806	-150.0	25.4	69.01	2.0	3.2	-151.4
PCV1807	-200.0	25.4	92.02	2.0	2.9	-201.4
PCV1808	-250.0	25.4	115.02	2.0	2.7	-251.4
PCV1809	-300.0	25.4	138.02	2.0	2.6	-301.4
PCV1810	-500.0	25.4	230.04	2.0	2.4	-501.4
PCV1811	-1000.0	25.4	460.08	2.0	2.2	-1001.4

Double Concave Spherical Lens - Fused Silica

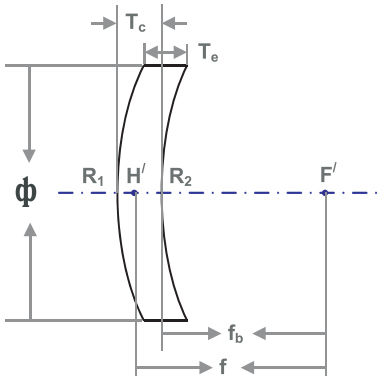
Material	UV Fused Silica
Dimension Tolerance	+0/-0.2mm
Thickness Tolerance	±0.2mm
Design Wavelength	546.1nm
Surface Quality	60/40 scratch and dig
Flatness	λ/4@632.8nm
Centration	<3 arc minutes
Focal Length Tolerance	±2%
Clear Aperture	>90%
Chamfer	Protective <0.5mm x 45deg
Coating	None



Part No.	f(mm)	Φ(mm)	R1=R2 (mm)	Tc(mm)	Te(mm)	fb(mm)
DCV1801	-35.0	25.4	32.52	2.0	7.2	-35.7
DCV1802	-50.0	25.4	46.32	2.0	5.6	-50.7
DCV1803	-75.0	25.4	69.33	2.0	4.3	-75.7
DCV1804	-100.0	25.4	92.33	2.0	3.8	-100.7
DCV1805	-125.0	25.4	115.40	2.0	3.4	-125.7
DCV1806	-150.0	25.4	138.34	2.0	3.2	-150.7
DCV1807	-200.0	25.4	184.35	2.0	2.9	-200.7
DCV1808	-250.0	25.4	230.36	2.0	2.7	-250.7
DCV1809	-300.0	25.4	276.36	2.0	2.6	-300.7
DCV1810	-500.0	25.4	460.40	2.0	2.4	-500.7
DCV1811	-1000.0	25.4	920.48	2.0	2.2	-1000.7

Meniscus Spherical Lens

Material	BK7
Dimension Tolerance	+0/-0.2mm
Thickness Tolerance	±0.2mm
Design Wavelength	546.1nm
Surface Quality	60/40 scratch and dig
Flatness	λ/4@632.8nm
Centration	<3 arc minutes
Focal Length Tolerance	±2%
Clear Aperture	>90%
Chamfer	Protective<0.5mm x 45deg
Coating	None



Part No.	f(mm)	Φ(mm)	R1(mm)	R2(mm)	Tc(mm)	Te(mm)	fb(mm)
MEN0801	50.0	25.4	20.58	90.00	6.0	2.5	45.0
MEN0802	100.0	25.4	33.72	90.00	4.0	2.5	97.5
MEN0803	150.0	25.4	42.52	90.00	4.0	3.0	146.3
MEN0804	200.0	25.4	49.03	90.00	3.5	2.8	197.0
MEN0805	500.0	25.4	123.90	235.00	3.5	3.2	495.4
MEN0806	-50.0	25.4	90.00	19.90	3.0	6.7	-49.5
MEN0807	-100.0	25.4	90.00	32.59	3.0	4.5	-99.2
MEN0808	-150.0	25.4	90.00	41.42	3.0	4.0	-149.5
MEN0809	-200.0	25.4	90.00	47.63	3.0	3.8	-197.8
MEN0810	-500.0	25.4	235.00	122.70	3.0	3.3	-497.8

Ball Lens

Specifications

Material	BK7, Fuses Silica, LaSFN9
Diameter Tolerance	+0/-0.005mm
Sphericity	<0.003mm
Surface Quality	60/40 scratch and dig
Clear Aperture	>90%
Coating	None, available

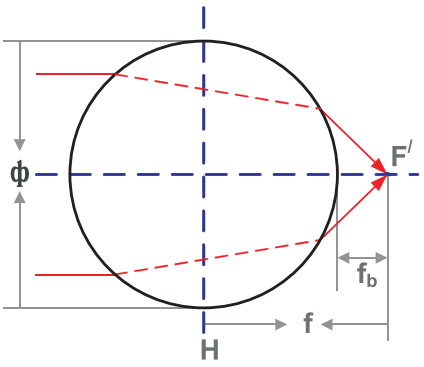
Order Information

BAL — BK7 — 5 — 5 ➲ BAL-Material-Diameter-Center Thickness

Rod Lens

Specifications

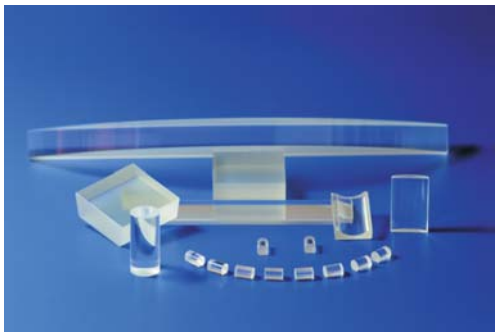
Material	BK7
Diameter Tolerance	+0/-0.05mm
Length Tolerance	±0.2mm
Surface Quality	60/40 scratch and dig
Clear Aperture	>90%
Polish	Cylindrical surface polished, end surface ground
Coating	None, available

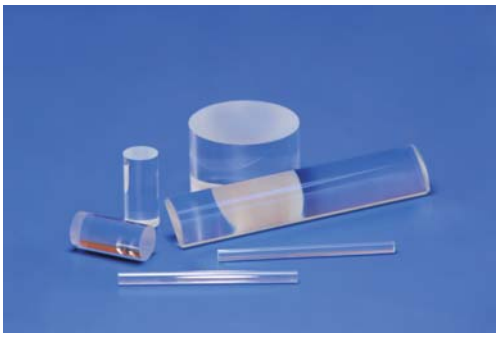


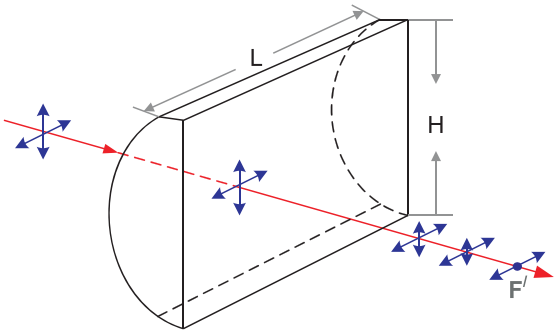
Order Information

ROD — BK7 — 5 — 50 ➲ ROD-Material-Diameter-Length

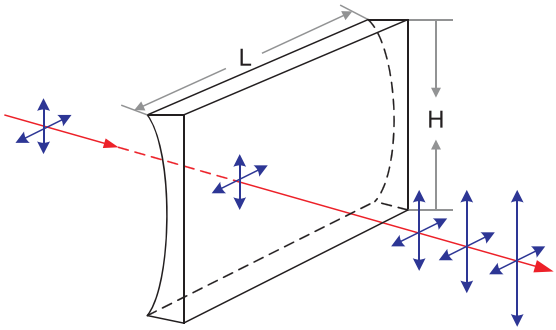
Cylindrical Lens







Plano Convex Cylindrical Lens



Plano Concave Cylindrical Lens

Specifications

Material	BK7
Design Wavelength	632.8nm
Dimension Tolerance	+0/-0.2mm
Thickness Tolerance	±0.2mm
Surface Quality	60/40 scratch and dig
Power(fringe@633nm)	3
Irregularity(fringe@633nm)	0.5
Centration	<3 arc minutes
Focal Length Tolerance	±2%
Clear Aperture	>90%
Chamfer	Protective <0.5x45deg

Ordering Information

BK7 — CYL — PCX — 10x20 — 150 — AR1064

➲ Material-CYL-Shape-Dimension(H*L)-Focal Length-AR coating

FS: Fused Silica; BK7: BK7
PCX: Plano Convex
PCV: Plano Concave
DCX: Double Convex
DCV: Double Concave

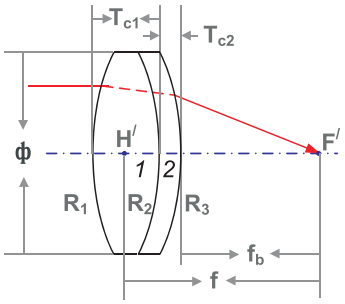
BK7 Plano-Convex Cylindrical Lens

Part No.	f(mm)	H(mm)	L(mm)	R(mm)	Tc(mm)	Te(mm)	fb(mm)
CYX0001	12.7	10.0	10.0	6.54	4.3	2.0	9.8
CYX0002	12.7	10.0	20.0	6.54	4.3	2.0	9.8
CYX0003	20.0	10.0	10.0	10.29	3.3	2.0	17.8
CYX0004	20.0	10.0	20.0	10.29	3.3	2.0	17.8
CYX0005	25.0	10.0	10.0	12.87	3.0	2.0	23.0
CYX0006	25.0	10.0	20.0	12.87	3.0	2.0	23.0
CYX0007	50.0	20.0	20.0	25.73	4.0	2.0	47.3
CYX0008	75.0	20.0	20.0	38.60	3.3	2.0	72.8
CYX0009	100.0	20.0	20.0	51.47	4.0	3.0	97.3
CYX0010	150.0	20.0	20.0	77.20	3.7	3.0	147.5
CYX0011	200.0	20.0	20.0	102.93	3.5	3.0	197.7
CYX0012	250.0	20.0	20.0	128.67	3.4	3.0	247.7
CYX0013	300.0	20.0	20.0	154.40	3.3	3.0	297.8
CYX0014	500.0	20.0	20.0	257.33	3.2	3.0	497.9
CYX0015	1000.0	20.0	20.0	514.66	3.1	3.0	997.9

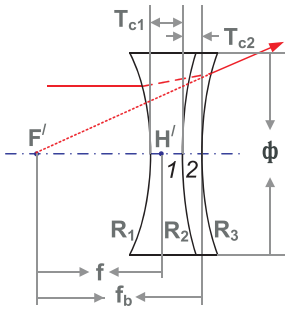
BK7 Plano-Concave Cylindrical Lens

Part No.	f(mm)	H(mm)	L(mm)	R(mm)	Tc(mm)	Te(mm)	fb(mm)
CYV001	-12.7	10.0	10.0	6.54	2.0	4.3	-14.0
CYV002	-12.7	10.0	20.0	6.54	2.0	4.3	-14.0
CYV003	-25.0	10.0	10.0	12.87	2.0	3.0	-26.3
CYV004	-25.0	10.0	20.0	12.87	2.0	3.0	-26.3
CYV005	-50.0	20.0	20.0	25.73	2.0	4.0	-51.3

Achromatic Lens



Positive Achromatic Lens



Negative Achromatic Lens

Specifications

Material	Optical Glasses
Design Wavelength	480, 546.1, 643.8nm
Dimension Tolerance	+0/-0.2mm
Thickness Tolerance	±0.2mm
Surface Quality	60/40 scratch and dig
Power(fringe@633nm)	3
Irregularity(fringe@633nm)	0.5
Centration	<3 arc minutes
Focal Length Tolerance	±2%
Clear Aperture	>90%
Chamfer	Protective <0.5x45deg
Coating	Single layer MgF_2 coating @550nm

Positive Achromatic Lens

Part No.	f(mm)	Φ(mm)	Tc(mm)	fb(mm)	Material
DBT9001	25.0	12.7	5.6	22.25	BK7+SF5
DBT9002	30.0	12.7	5.3	27.36	BK7+SF5
DBT9003	40.0	12.7	4.7	37.78	BK7+SF5
DBT9004	50.0	12.7	4.4	48.00	BK7+SF5
DBT9005	60.0	12.7	4.1	58.13	BK7+SF5
DBT9006	75.0	12.7	3.9	73.23	BK7+SF5
DBT9007	50.0	25.4	9.8	44.52	N-BAF10+SF10
DBT9008	75.0	25.4	8.5	70.39	BK7+SF5
DBT9009	100.0	25.4	6.5	97.05	BK7+SF5
DBT9010	125.0	25.4	6.1	120.90	BK7+SF5
DBT9011	150.0	25.4	5.8	146.10	BK7+SF5

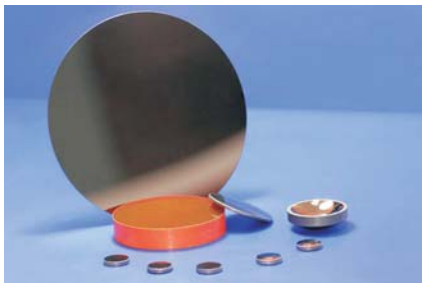
Negative Achromatic Lens

Part No.	f(mm)	Φ(mm)	Tc(mm)	fb(mm)	Material
DBT9101	-25.0	12.7	5.67	-27.5	BK7+F2
DBT9102	-40.0	12.7	5.34	-42.5	BK7+F2
DBT9103	-50.0	25.4	7.22	-53.3	BK7+F2

Infrared Lens

Union Optic offers a wide variety of infrared spherical lenses. We can offer plano-convex, plano-concave, double-convex, double-concave and meniscus types. The available material includes CaF_2, BaF_2, MgF_2, Si, Ge, and ZnSe, which covering wavelengths from the UV to 19μm.

And we can also offer different AR coatings covering 1.8-3μm, 3-5μm and 8-14μm. Special coating is also available upon request. Below is the list of the features of these IR lenses we can supplied.



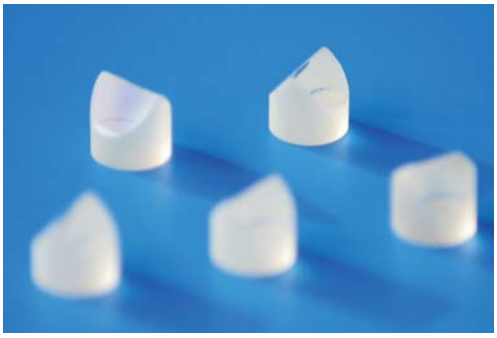
Calcium Fluoride(CaF_2)	● Transmission Range 0.17-7.8μm ● Ideal for Excimer laser application ● Low refractive index, low reflective loss, can be used without AR coating
Barium Fluoride(BaF_2)	● Transmission Range 0.2-11μm ● Resistant to high energy radiation ● 3-5μm AR coating available
Magnesium Fluoride(MgF_2)	● Transmission Range 0.12-7μm ● Durable and strong ● Low refractive index, low reflective loss, can be used without AR coating
Silicon(Si)	● Transmission Range 1.2-7μm ● Light weight and good thermal conductivity ● 3-5μm AR coating available
Germanium(Ge)	● Transmission Range 2-14μm ● Ideal for Military, security and imaging application ● 8-14μm AR coating available
Zinc Selenide(ZnSe)	● Transmission Range 0.5-19μm ● Mainly used in CO_2 laser application due to its excellent imaging characteristics and high resistance to thermal shock ● 8-12μm AR coating available

Capabilities

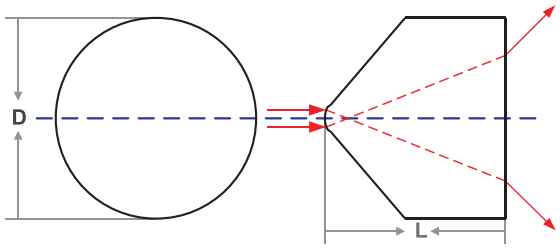
Material	CaF_2, BaF_2, MgF_2, Si, Ge, ZnSe
Dimension Tolerance	+0/-0.1mm
Thickness Tolerance	±0.1mm
Surface Quality	60/40 scratch and dig
Power(fringe@633nm)	3
Irregularity(fringe@633nm)	0.5
Centration	<3 arc minutes
Focal Length Tolerance	±2%
Clear Aperture	>90%
Chamfer	Protective <0.5mmx45deg
Coating	AR coating 1.8-3μm, 3-5μm and 8-14μm Other coatings is available upon request

Laser Line Generator Lens

Normally cylindrical lenses can produce straight line, but it only generates Gaussian beam profiles with hot-spot center points and fading edges. Unlike cylindrical lens, laser line generator lens can produce an uniform distribution of energy along the line. While, the input beam diameter must be smaller than 1mm.



- Creates Uniform, Straight Line
- Several Fan Angles Available
- Ideal for Alignment and Machine Vision Application



Specifications

Material	BK7, SF glass
Design Wavelength	632.8nm
Diameter(D)	9mm
Thickness(L)	about 9mm
Surface Quality	60/40 scratch and dig
Clear Aperture	>90%
Chamfer	Protective<0.5mmx45deg
Coating	None, Available

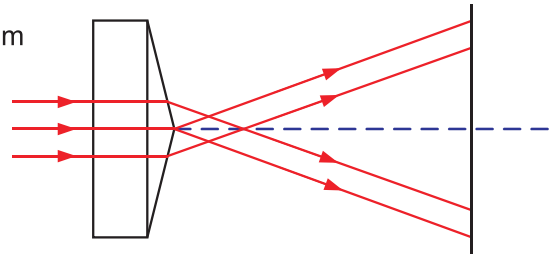
Standard Product

Part No.	D(mm)	Full Fan Angle(deg)
LLG0109-30	9.0	30.0
LLG0109-45	9.0	45.0
LLG0109-50	9.0	50.0
LLG0109-60	9.0	60.0
LLG0109-75	9.0	75.0
LLG0109-90	9.0	90.0

Plano Convex Axicon Lens

Plano-convex Axicon consists of one convex conical surface and one plane surface. It is always used to produce a non-diffractive ring-shaped beam in the near field, whose diameter will increase over distance while maintaining a constant ring thickness. When used with a collimated Gaussian beam, Plano-convex Axicon can create an approximation of a Bessel beam ideal for a range of medical, research, measurement, and alignment applications.

- Creates a Ring Shaped Approximation of a Bessel Beam
- Many Apex Angles Available
- AR Coating Upon Request
- Custom Size Available
- RoHS Compliant



Specifications

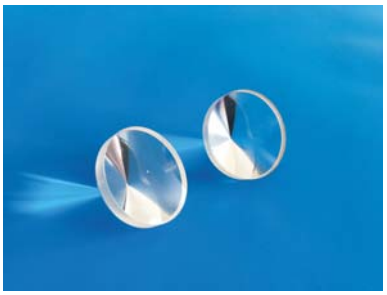
Material	UV grade fused silica
Design Wavelength	632.8nm
Diameter Tolerance	+0/-0.15mm
Center Thickness Tolerance	±0.2mm
Apex Angle Tolerance	±0.5Deg
Flatness	<λ/4@632.8nm
Surface Quality	60/40 scratch and dig
Clear Aperture	>90%
Chamfer	Protective <0.5mmx45deg
Coating	None, Available upon request

Standard Product

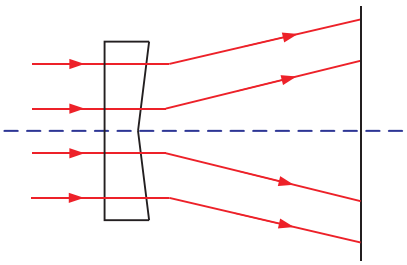
Part No.	Material	Diameter(mm)	Center Thickness(mm)	Apex Angle(Deg)	Design Wavelength(nm)
ANX1125-90	UVFS	25.4	16.2	90	632.8
ANX1125-130	UVFS	25.4	9.4	130	632.8
ANX1125-140	UVFS	25.4	8.1	140	632.8
ANX1125-160	UVFS	25.4	5.7	160	632.8
ANX1125-170	UVFS	25.4	4.6	170	632.8
ANX1125-175	UVFS	25.4	4.1	175	632.8
ANX1125-176	UVFS	25.4	3.9	176	632.8
ANX1125-178	UVFS	25.4	3.7	178	632.8
ANX1125-179	UVFS	25.4	3.6	179	632.8

Plano Concave Axicon Lens

Plano-concave Axicon consists of one concave conical surface and one plane surface. It is always used to produce a non-diffractive ring-shaped beam in the near field, whose diameter will increase over distance while maintaining a constant ring thickness. When used with a collimated Gaussian beam, Plano-convex Axicon can create an approximation of a Bessel beam ideal for a range of medical, research, measurement, and alignment applications.



- Creates a Ring Shaped Approximation of a Bessel Beam
- Many Apex Angles Available
- AR Coating Upon Request
- Custom Size Available
- RoHS Compliant



Specifications

Material	UV grade fused silica
Design Wavelength	632.8nm
Diameter Tolerance	+0/-0.15mm
Center Thickness Tolerance	±0.2mm
Apex Angle Tolerance	±0.5Deg
Flatness	<λ/4@632.8nm
Surface Quality	60/40 scratch and dig
Clear Aperture	>90%
Chamfer	Protective <0.5mmx45deg
Coating	None, Available upon request

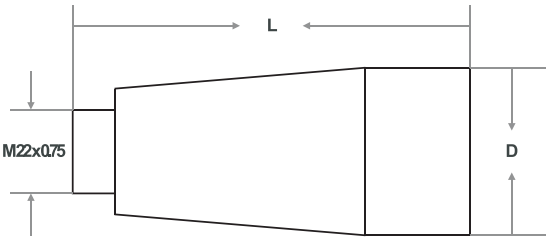
Standard Product

Part No.	Material	Diameter(mm)	Edge Thickness(mm)	Apex Angle(Deg)	Design Wavelength(nm)
ANV1125-90	UVFS	25.4	9	90	632.8
ANV1125-130	UVFS	25.4	9	130	632.8
ANV1125-140	UVFS	25.4	9	140	632.8
ANV1125-160	UVFS	25.4	9	160	632.8
ANV1125-170	UVFS	25.4	9	170	632.8
ANV1125-175	UVFS	25.4	9	175	632.8
ANV1125-176	UVFS	25.4	9	176	632.8
ANV1125-178	UVFS	25.4	9	178	632.8
ANV1125-179	UVFS	25.4	9	179	632.8

Laser Beam Expander

Laser Beam Expander is used to compress the divergence angle of the beam by expanding the diameter of the laser beam, so it is widely used in laser ranging system or laser focus system. The beam through a laser beam expander features a smaller divergence angle, which can achieve the ideal effect in long distance measurement, and also we can get smaller and higher energy beam spot in the laser processing applications.

- Consists of Two or Three Lenses
- Expand Laser Beam Diameter
- Compress Beam Divergence Angle
- Multi Wavelengths & Magnifications Available
- Black Anodized Aluminum Mount



Specifications

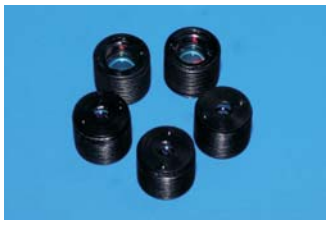
Lens Material	BK7 or UV grade fused silica
Mount Material	Black Anodized Aluminum
Transmitted Wavefront Distortion	<λ/4@632.8nm(RMS)
Surface Quality of Lens	60/40 scratch and dig
Mount Thread	M22x0.75mm
Coating	Multi Layer AR Coating, Total Transmission >98%@ Design Wavelength
Damage Threshold	>5J/cm^2, 20ns, 20Hz, @1064nm

Standard Product

Part No.	Design Wavelength(nm)	Magnification	D*L(mm)	Maximum Exit Aperture(mm)	Substrate
BEP0004-1064	1064	4	34*76	29.4	BK7
BEP0005-1064	1064	5	34*77	29.4	BK7
BEP0006-1064	1064	6	34*84.5	29.4	BK7
BEP0008-1064	1064	8	34*80	29.4	BK7
BEP0010-1064	1064	10	34*88.5	29.4	BK7
BEP0004-633	633	4	34*74.5	29.4	BK7
BEP0005-633	633	5	34*75.5	29.4	BK7
BEP0006-633	633	6	34*83	29.4	BK7
BEP0008-633	633	8	34*78.5	29.4	BK7
BEP0010-633	633	10	34*87	29.4	BK7
BEP0004-532	532	4	34*74.5	29.4	BK7
BEP0005-532	532	5	34*75.5	29.4	BK7
BEP0006-532	532	6	34*83	29.4	BK7
BEP0008-532	532	8	34*78.5	29.4	BK7
BEP0010-532	532	10	34*87	29.4	BK7
BEP0004-355	355	4	27*71	21.4	UVFS
BEP0005-355	355	5	27*76	21.4	UVFS
BEP0006-355	355	6	27*80	21.4	UVFS
BEP0008-355	355	8	27*65	21.4	UVFS
BEP0010-355	355	10	27*66.5	21.4	UVFS

Lens Assembly

Union Optic can also offer lens assembly such as doublet, triplet and custom special lens kit. We can also provide lenses assembled with mechanical mounts.



Parameter	Manufacturing Limit
Dimension Tolerance	±0.01mm
Thickness Tolerance	±0.01mm
Surface Quality	20/10 scratch and dig
Power(fringe@633nm)	1
Irregularity(fringe@633nm)	0.2
Radius Tolerance	±0.1%