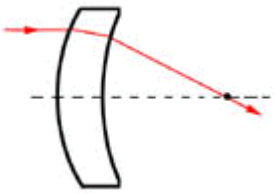
Focusing Lens

Focusing lens are used to focus laser beam. The objective of focusing the laser beam is to use the laser power for material processing.

- 10.6µm

ZnSe Lenses are widely used for CO2 laser application because of its low absorption at infrared wavelengths as well as its visible transmission.

Specifications	
Diameter Tolerance	+0/-0.13mm
Thickness Tolerance	±0.25mm
FL Tolerance	<±2%
Centration	<3 arc minutes
Clear Aperture	>90%
Surface Figure	<λ/2 per 1"Dia@632.8nm
Surface Quality	40-20 scratch and dig
AR/AR coating	R<0.5% per surface @ 10.6um



10.6µm ZnSe Singlet Positive Meniscus Lenses

Part No.	Diameter (mm)	EFL (mm)	BFL (mm)	E.T. (mm)
LZM-12-18.8-ET1.4	12.0	18.8	19.0	1.4
LZM-12-18.8-ET2	12.0	18.8	19.0	2.0
LZM-15.8-47-ET2.1	15.8	47.0	48.0	2.1
LZM-0.6-1.5-ET2	15.2	38.1	38.0	2.0
LZM-15.8-47-ET2.1	15.8	47.0	48.0	2.1
LZM-18-23.4-ET1.7	18.0	23.4	24.0	1.7
LZM-18-50-ET2	18.0	50.0	51.0	2.0
LZM-0.75-1.5-ET2	19.1	38.1	38.0	2.0
LZM-0.75-2.5-ET2	19.1	63.5	64.0	2.0
LZM-0.75-3-ET2	19.1	76.2	64.0	2.0
LZM-0.75-3.5-ET2	19.1	88.9	90.0	2.0
LZM-20-2-ET2	20.0	50.8	64.0	2.0
LZM-20-2.5-ET2	20.0	63.5	64.0	2.0
LZM-24-37.1-ET1.5	24.0	37.1	38.0	1.5
LZM-25-3-ET2.3	25.0	74.1	76.2	2.3
LZM-1-1-ET2	25.4	25.4	22.4	2.0
LZM-1-1.5-ET2	25.4	38.1	35.6	2.0
LZM-1-1.5-ET3	25.4	38.1	38.0	3.0

10.6µm ZnSe Singlet Positive Meniscus Lenses

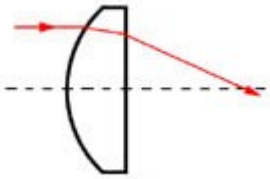
Part No.	Diameter (mm)	EFL (mm)	BFL (mm)	E.T. (mm)
LZM-1-50-ET3	25.4	50.0	51.0	3.0
LZM-1-2-ET2	25.4	50.8	51.0	2.0
LZM-1-2-ET3	25.4	50.8	51.0	3.0
LZM-1-2.5-ET3	25.4	63.5	51.0	3.0
LZM-1-73.8-ET3.2	25.4	73.8	74.0	3.2
LZM-1-3-ET2	25.4	76.2	76.0	2.0
LZM-1-3.75-ET3	25.4	96.5	96.0	3.0
LZM-1-100-ET3	25.4	100.0	102.0	3.0
LZM-1-4-ET3	25.4	101.6	102.0	3.0
LZM-1-102-ET3	25.4	102.0	102.0	3.0
LZM-1-5-ET3	25.4	127.0	128.0	3.0
LZM-1-152-ET3	25.4	152.0	153.0	3.0
LZM-1-6-ET3	25.4	152.4	153.0	3.0
LZM-1-200-ET3	25.4	200.0	201.0	3.0
LZM-1-8-ET3	25.4	203.2	201.0	3.0
LZM-1-10-ET3	25.4	254.0	226.0	3.0
LZM-27-62.4-ET2	27.0	62.4	64.0	2.0
LZM-1.1-54.1-ET1.7	27.9	54.1	55.0	1.7
LZM-1.1-2.5-ET2	27.9	63.5	64.0	2.0
LZM-1.1-2.5-ET3	27.9	63.5	61.0	3.0
LZM-1.1-3.75-ET2.5	27.9	96.5	96.0	2.5
LZM-1.1-3.75-ET3	27.9	96.5	96.0	3.0
LZM-1.1-5-ET2	27.9	127.0	125.0	2.0
LZM-1.1-5-ET3	27.9	127.0	126.0	3.0
LZM-1.1-5-ET4	27.9	127.0	127.7	4.0
LZM-1.1-5-ET5.1	27.9	127.0	123.3	5.1
LZM-1.1-5-ET6	27.9	127.0	122.7	6.0
LZM-1.1-7.5-ET6	27.9	190.5	191.0	6.0
LZM-30-117.6-ET2.6	30.0	117.6	119.0	2.6
LZM-30-118.4-ET3	30.0	118.4	119.0	3.0
LZM-30-150.1-ET3	30.0	150.1	153.0	3.0

10.6µm ZnSe Singlet Positive Meniscus Lenses

Part No.	Diameter (mm)	EFL (mm)	BFL (mm)	E.T. (mm)
LZM-30-69.1-ET2.84	30.0	69.1	70.0	2.8
LZM-32-71-ET2.7	32.0	71.0	72.0	2.7
LZM-1.5-2-ET3	38.1	50.8	47.0	3.0
LZM-1.5-3.75-ET6	38.1	96.5	90.4	6.0
LZM-1.5-5-ET2.4	38.1	127.0	124.7	2.4
LZM-1.5-5-ET3	38.1	127.0	125.0	3.0
LZM-1.5-5-ET6	38.1	127.0	125.0	6.0
LZM-1.5-5-ET7	38.1	127.0	125.0	7.0
LZM-1.5-5-ET7.4	38.1	127.0	121.2	7.4
LZM-1.5-5-ET9	38.1	127.0	126.0	9.0
LZM-1.5-7.5-ET3	38.1	190.5	188.0	3.0
LZM-1.5-7.5-ET6	38.1	190.5	185.0	6.0
LZM-1.5-7.5-ET6.2	38.1	190.5	186.0	6.2
LZM-1.5-7.5-ET7	38.1	190.5	186.0	7.0
LZM-1.5-7.5-ET7.4	38.1	190.5	185.1	7.4
LZM-1.5-7.5-ET9	38.1	190.5	184.1	9.0
LZM-1.5-8.858-ET7.4	38.1	223.5	218.1	7.4
LZM-1.5-10-ET7.4	38.1	254.0	248.7	7.4
LZM-40-150-ET4	40.0	150.0	151.0	4.0
LZM-2-150-ET3	50.8	150.0	147.0	3.0
LZM-2-7.5-ET9.6	50.8	190.5	183.5	9.6
LZM-2-10-ET9.6	50.8	254.0	247.0	9.6
LZM-2-700-ET3	50.8	700.0	698.3	3.0
LZM-2-1300-ET4	50.8	1300.0	1297.4	4.0
LZM-55-122.8-ET3.3	55.0	122.8	119.1	3.3
LZM-60-79.1-ET1.66	60.0	79.1	75.2	1.7
LZM-60-267.7-ET3.3	60.0	267.7	264.7	3.3
LZM-67-92.6-ET3	67.0	92.6	87.7	3.0

10.6µm ZnSe Singlet Plano-Convex Lens

Specifications	
Diameter Tolerance	+0/-0.13mm
Thickness Tolerance	±0.25mm
FL Tolerance	<±2%
Centration	<3 arc minutes
Clear Aperture	>90%
Surface Figure	<λ/2 per 1"Dia@632.8nm
Surface Quality	40-20 scratch and dig
AR/AR coating	R<0.5% per surface @ 10.6um

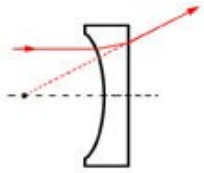


Part No.	Diameter (mm)	EFL (mm)	BFL (mm)	E.T. (mm)
LZ-0.6-1.5-ET2	15.2	38.1	38.1	2.0
LZ-0.6-2-ET2	15.2	50.6	50.8	2.0
LZ-0.6-2.5-ET2	15.2	63.5	63.5	2.0
LZ-0.6-4-ET2	15.2	101.6	101.6	2.0
LZ-0.75-1-ET2	19.0	25.4	23.0	2.0
LZ-0.75-1.5-ET2	19.0	38.1	38.1	2.0
LZ-0.75-2-ET2	19.0	50.6	50.8	2.0
LZ-0.75-2.5-ET2	19.0	63.5	63.5	2.0
LZ-0.75-3-ET2	19.0	76.2	74.6	2.0
LZ-0.75-4-ET2	19.0	101.6	101.6	2.0
LZ-0.75-5-ET2	19.0	127.0	125.5	2.0
LZ-1-1.5-ET2.1	25.4	38.1	35.6	2.1
LZ-1-1.5-ET3	25.4	38.1	35.0	3.0
LZ-1-2-ET3	25.4	50.8	48.3	3.0
LZ-1-2-ET2	25.4	50.8	48.6	2.0
LZ-1-2.5-ET3	25.4	63.5	61.0	3.0
LZ-1-3-ET3	25.4	76.2	73.7	3.0
LZ-1-4-ET3	25.4	101.6	99.2	3.0
LZ-1-5-ET3	25.4	127.0	124.7	3.0
LZ-1-7.5-ET3	25.4	190.5	185.0	3.0
LZ-1.1-1-ET3	27.9	25.4	21.4	3.0
LZ-1.1-1.5-ET3	27.9	38.1	34.8	3.0
LZ-1.1-2.5-ET3	27.9	63.5	60.7	3.0
LZ-1.1-3-ET3	27.9	76.2	73.6	3.0
LZ-1.1-3.5-ET3	27.9	88.9	86.4	3.0
LZ-1.1-3.75-ET3	27.9	95.2	92.7	3.0
LZ-1.1-4-ET3	27.9	101.6	99.1	3.0
LZ-1.1-5-ET3	27.9	127.0	124.3	3.0
LZ-30-3-ET3	30.0	76.2	73.6	3.0
LZ-1.5-1.5-ET3	38.1	38.1	33.7	3.0

Part No.	Diameter (mm)	EFL (mm)	BFL (mm)	E.T. (mm)
LZ-1.5-2-ET3	38.1	50.8	47.0	3.0
LZ-1.5-2.5-ET3	38.1	63.5	60.0	3.0
LZ-1.5-2.5-ET6	38.1	63.5	58.2	6.0
LZ-1.5-2.5-ET2	38.1	65.2	63.5	2.0
LZ-1.5-3-ET3	38.1	76.2	73.0	3.0
LZ-1.5-3.5-ET3	38.1	90.5	88.9	3.0
LZ-1.5-3.75-ET3	38.1	95.2	92.3	3.0
LZ-1.5-5-ET3	38.1	128.1	127.0	3.0
LZ-2-100-ET3	50.8	100.0	96.6	3.0
LZ-2-150-ET3	50.8	150.0	146.2	3.0

- 10.6µm Diverging Lens (Negative)

Specifications	
Diameter Tolerance	+0/-0.13mm
Thickness Tolerance	±0.25mm
FL Tolerance	<+/-2%
Centration	<3 arc minutes
Clear Aperture	>90%
Surface Figure	<λ/2 per 1"Dia@632.8nm
Surface Quality	40-20 scratch and dig
AR/AR Coating	R<0.5% per surface @10.6um



ZnSe Singlet Plano-Concave Lens

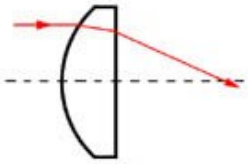
Part No.	Diameter (mm)	EFL (mm)	E.T. (mm)
LZ-5+10-ET2	5.0	-10.0	2.0
LZ-8+16-ET2	8.0	-16.0	2.0
LZ-10+1.4-ET1.25	10.0	-35.6	1.3
LZ-12.5+7-ET3-9.4	12.5	-7.0	3.0
LZ-12.5+8-ET1.3	12.5	-8.0	1.3
LZ-12.5+0.38-ET3	12.5	-9.7	3.0
LZ-12.5+0.45-ET2.8	12.5	-11.4	2.8
LZ-12.5+0.5-ET2.6	12.5	-12.7	2.6
LZ-12.5+0.55-ET2.1	12.5	-14.0	2.1
LZ-12.5+0.6-ET2.6	12.5	-15.2	2.6
LZ-12.5+0.75-ET2.3	12.5	-19.1	2.3
LZ-12.5+1-ET2.3	12.5	-25.4	2.3
LZ-12.5+1.2-ET2.5	12.5	-30.5	2.5
LZ-12.5+1.5-ET2	12.5	-38.1	2.0
LZ-12.5+2.2-ET2.3	12.5	-55.9	2.3
LZ-0.5+18.5-ET3	12.7	-18.5	3.0
LZ-0.5+1.48-ET2	12.7	-37.6	2.0
LZ-15+0.6-ET3.3	15.0	-15.2	3.3

Part No.	Diameter (mm)	EFL (mm)	E.T. (mm)
LZ-15+11.6-ET3.68	15.0	-11.6	3.7
LZ-15+13.97-ET3.6	15.0	-14.0	3.6
LZ-15+19.1-ET3.3	15.0	-19.1	3.3
LZ-15+1-ET3.3	15.0	-25.4	3.3
LZ-15+26.06-ET3	15.0	-26.1	3.0
LZ-15+30-ET3	15.0	-30.0	3.0
LZ-15+1.5-ET3	15.0	-38.1	3.0
LZ-15+38.71-ET2.57	15.0	-38.7	2.6
LZ-15+2-ET2	15.0	-50.8	2.0
LZ-15+56-ET2.86	15.0	-56.0	2.9
LZ-15+60-ET3	15.0	-60.0	3.0
LZ-0.6+1-ET4.6	15.2	-25.4	4.6
LZ-0.6+2-ET2	15.2	-50.8	2.0
LZ-17+30.3-ET3	17.0	-30.3	3.0
LZ-17.5+0.55-ET3.5	17.5	-14.0	3.5
LZ-17.5+0.75-ET3	17.5	-19.1	3.0
LZ-17.5+1-ET3	17.5	-25.4	3.0
LZ-17.5+1.2-ET2.5	17.5	-30.5	2.5
LZ-17.5+1.5-ET3	17.5	-38.1	3.0
LZ-19+25.714-ET3.15	19.0	-25.7	3.2
LZ-0.75+25-ET3	19.1	-25.0	3.0
LZ-0.75+1-ET3	19.1	-25.4	3.0
LZ-0.75+30-ET3	19.1	-30.0	3.0
LZ-0.75+1.5-ET3	19.1	-38.1	3.0
LZ-0.75+50-ET3	19.1	-50.0	3.0
LZ-0.75+2-ET3	19.1	-50.8	3.0
LZ-20+94.74-ET2.9	20.0	-94.7	2.9
LZ-25+0.55-ET5.74	25.0	-14.0	5.7
LZ-25+0.6-ET4.3	25.0	-15.2	4.3
LZ-25+0.75-ET4.9	25.0	-19.1	7.9
LZ-25+1-ET4.4	25.0	-25.4	4.4
LZ-25+56-ET3.6	25.0	-56.0	3.6
LZ-25+406-ET3	25.0	-406.0	3.0
LZ-1+18-ET4.5	25.4	-18.0	4.5
LZ-1+35-ET3.5	25.4	-35.0	3.5
LZ-1+2-ET3	25.4	-50.8	3.0
LZ-1+2.5-ET3	25.4	-63.5	3.0
LZ-44+118-ET3.1	44.0	-118.0	3.1
LZ-3+100-ET10	76.2	-100.0	10.0

- 1064nm,532nm,355nm Focusing Lens (Positive)

Focusing lens are used to focus laser beam. The objective of focusing the laser beam is to use the laser power for material processing.

Specifications	
Diameter Tolerance	+0/-0.13mm
Thickness Tolerance	±0.25mm
FL Tolerance	<±2%
Centration	<3 arc minutes
Clear Aperture	>80%
Surface Figure	λ/4 Per 1" Dia @632.8nm
Surface Quality	60-40 scratch and dig
AR/AR coating	R<0.5% Per surface



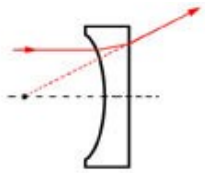
Part No.	Diameter (mm)	EFL (mm)	ET (mm)	Material
LFS-25-75-ET2	25.0	75.0	2.0	Fused Silica
LFS-25-80-ET2	25.0	80.0	2.0	Fused Silica
LFS-25-100-ET2	25.0	100.0	2.0	Fused Silica
LFS-1-50-ET2	25.4	50.0	2.0	Fused Silica
LFS-1-100-ET2	25.4	100.0	2.0	Fused Silica
LFS-1-150-ET2	25.4	150.0	2.0	Fused Silica
LFS-1-200-ET2	25.4	200.0	2.0	Fused Silica
LFS-1-250-ET2	25.4	250.0	2.0	Fused Silica
LFS-1-300-ET2	25.4	300.0	2.0	Fused Silica
LFS-1-500-ET2	25.4	500.0	2.0	Fused Silica
LFS-1-1000-ET2	25.4	1000.0	2.0	Fused Silica
LFS-38-100-ET3	38.0	100.0	3.0	Fused Silica
LFS-38-150-ET3	38.0	150.0	3.0	Fused Silica
LFS-38-200-ET3	38.0	200.0	3.0	Fused Silica
LFS-38-350-ET3	38.0	350.0	3.0	Fused Silica
LFS-38-500-ET3	38.0	500.0	3.0	Fused Silica
LFS-45-4-ET1.5	45.0	101.6	1.5	Fused Silica
LFS-45-5-ET1.5	45.0	127.0	1.5	Fused Silica
LFS-45-6-ET1.5	45.0	152.4	1.5	Fused Silica

*Meniscus focusing lens is available upon request.

Part No.	Diameter (mm)	EFL (mm)	ET (mm)	Material
LBK-10.5-27.8-ET2.5	10.5	27.8	2.5	BK7
LBK-0.5-15-ET2	12.7	15.0	2.0	BK7
LBK-0.5-20-ET2	12.7	20.0	2.0	BK7
LBK-0.5-31-ET2	12.7	31.0	2.0	BK7
LBK-0.5-50-ET2	12.7	50.0	2.0	BK7
LBK-0.5-75-ET2	12.7	75.0	2.0	BK7
LBK-0.5-100-ET2	12.7	100.0	2.0	BK7
LBK-0.5-120-ET2	12.7	120.0	2.0	BK7
LBK-0.5-140-ET2	12.7	140.0	2.0	BK7
LBK-0.5-160-ET2	12.7	160.0	2.0	BK7
LBK-14-37.8-ET2.5	14.0	37.8	2.5	BK7
LBK-15-20-ET2	15.0	20.0	2.0	BK7
LBK-15-35-ET2.5	15.0	35.0	2.5	BK7
LBK-1-25.4-ET2	25.4	25.4	2.0	BK7
LBK-1-35-ET2	25.4	35.0	2.0	BK7
LBK-1-40-ET2.16	25.4	40.0	2.2	BK7
LBK-1-50-ET2	25.4	50.0	2.0	BK7
LBK-1-60-ET2	25.4	60.0	2.0	BK7
LBK-1-70-ET2	25.4	70.0	2.0	BK7
LBK-1-75-ET2	25.4	75.0	2.0	BK7
LBK-1-100-ET2	25.4	100.0	2.0	BK7
LBK-1-125-ET2	25.4	125.0	2.0	BK7
LBK-1-150-ET2	25.4	150.0	2.0	BK7
LBK-1-152-ET2	25.4	152.0	2.0	BK7
LBK-1-175-ET2	25.4	175.0	2.0	BK7
LBK-1-200-ET2	25.4	200.0	2.0	BK7
LBK-1-250-ET2	25.4	250.0	2.0	BK7
LBK-1-300-ET2	25.4	300.0	2.0	BK7
LBK-1-500-ET2	25.4	500.0	2.0	BK7
LBK-1-1000-ET2	25.4	1000.0	2.0	BK7
LBK-30-80-ET2	30.0	80.0	2.0	BK7
LBK-30-100-ET2	30.0	100.0	2.0	BK7
LBK-30-120-ET2	30.0	120.0	2.0	BK7
LBK-50-100-ET3	50.0	100.0	3.0	BK7
LBK-50-150-ET3	50.0	150.0	3.0	BK7
LBK-50-200-ET3	50.0	200.0	3.0	BK7
LBK-50-250-ET2	50.0	250.0	3.0	BK7
LBK-50-300-ET2	50.0	300.0	3.0	BK7
LBK-50-400-ET2	50.0	400.0	3.0	BK7
LBK-50-450-ET2	50.0	450.0	3.0	BK7
LBK-50-500-ET2	50.0	500.0	3.0	BK7
LBK-50-600-ET2	50.0	600.0	3.0	BK7
LBK-50-800-ET2	50.0	800.0	3.0	BK7
LBK-50-1000-ET2	50.0	1000.0	2.5	BK7

- 1090nm,1064nm,532nm,355nm Diverging Lens (Negative)

Specifications	
Diameter Tolerance	+0/-0.13mm
Thickness Tolerance	±0.25mm
FL Tolerance	<±2%
Centration	<3 arc minutes
Clear Aperture	>80%
Surface Figure	λ/4 per 1" Dia @632.8nm
Surface Quality	60-40 scratch and dig
AR/AR coating	R<0.5% per surface



1090nm Singlet Diverging Lenses

Part No.	Diameter (mm)	EFL (mm)	ET (mm)	Material
LFS-10+33.5-ET3.3FB	10.0	-33.5	3.3	Fused Silica
LFS-10+33.8-ET3.3FB	10.0	-33.8	3.3	Fused Silica

1064nm Singlet Diverging Lenses

Part No.	Diameter (mm)	EFL (mm)	ET (mm)	Material
LFS-12+16-ET3.2	12.0	-16.0	3.2	Fused Silica
LFS-12+1-ET3.2	12.0	-25.4	3.2	Fused Silica
LFS-12+25-ET3.1	12.0	-25.0	3.1	Fused Silica
LFS-12+2.5-CT2	12.0	-63.5	2.4	Fused Silica
LFS-12+34.3-ET2.7	12.0	-34.3	2.7	Fused Silica
LFS-12+39.2-ET3	12.0	-39.2	3.0	Fused Silica
LFS-12+64.2-ET2.4	12.0	-64.2	2.4	Fused Silica
LFS-12.5+0.375-ET4	12.5	-9.5	4.0	Fused Silica
LFS-12.5+0.5-ET4	12.5	-12.7	4.0	Fused Silica
LFS-12.5+16-ET4.3	12.5	-16.0	4.3	Fused Silica
LFS-15+50-ET2.5	15.0	-50.0	2.5	Fused Silica
LFS-17.5+36.75-ET3.4	17.5	-36.8	3.4	Fused Silica
LFS-17.5+65.4-ET3	17.5	-65.4	3.0	Fused Silica
LFS-1+1.13-ET12.7	25.4	-28.7	12.7	Fused Silica
LFS-28+252.7-ET3.2	28.0	-252.7	3.2	Fused Silica
LFS-36+189.7-ET4.67	36.0	-189.7	4.7	Fused Silica
LFS-36+192.79-ET4.6	36.0	-192.8	4.6	Fused Silica
LFS-36+383.95-ET4.7	36.0	-384.0	4.7	Fused Silica
LBK-0.5+15-ET2	12.7	-15.0	2.0	BK7
LBK-0.5+20-ET2	12.7	-20.0	2.0	BK7
LBK-0.5+25-ET2	12.7	-25.0	2.0	BK7
LBK-0.5+30-ET2	12.7	-30.0	2.0	BK7
LBK-0.5+40-ET2	12.7	-40.0	2.0	BK7

532nm Singlet Diverging Lenses

Part No.	Diameter (mm)	EFL (mm)	ET (mm)	Material
LFS-8+7.35-ET2.85G	8.0	-7.4	2.9	Fused Silica
LFS-10+8.46-ET4.1G	10.0	-8.5	4.1	Fused Silica
LFS-10+14.9-ET3.7G	10.0	-14.9	3.7	Fused Silica
LFS-10+18.78-ET2.5G	10.0	-18.8	2.5	Fused Silica
LFS-10+24.7-ET2.6G	10.0	-24.7	2.6	Fused Silica
LFS-10+35.65-ET2G	10.0	-36.7	2.0	Fused Silica
LFS-20+54.5-ET4.2G	20.0	-54.5	4.2	Fused Silica
LFS-10+73.31-ET2.38G	10.0	-73.3	2.4	Fused Silica

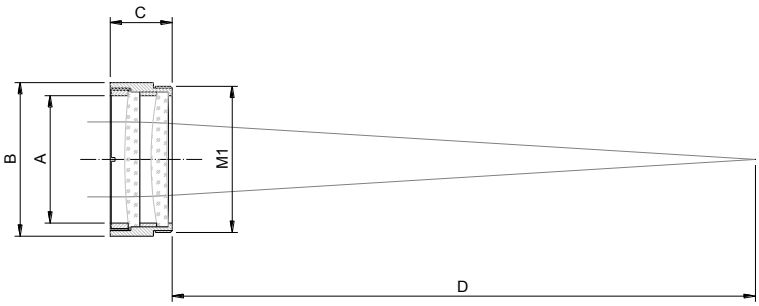
355nm Singlet Diverging Lenses

Part No.	Diameter (mm)	EFL (mm)	ET (mm)	Material
LFS-10+5.11-ET5U	10.0	-5.1	5.0	Fused Silica
LFS-10+15.94-ET2.6U	10.0	-16.0	2.6	Fused Silica
LFS-12+34.3-ET2.7U	12.0	-34.3	2.7	Fused Silica
LFS-12.5+6.57-ET5U	12.5	-6.6	5.0	Fused Silica
LFS-12.5+0.5-T5.6U	12.5	-12.7	5.6	Fused Silica
LFS-12.5+12.7-3.5U	12.5	-12.7	3.5	Fused Silica
LFS-18+58.9-ET2.7U	18.0	-58.9	2.7	Fused Silica
LFS-18+89.1-ET2.5U	18.0	-89.1	2.5	Fused Silica
LFS-20+45.02-ET4U	20.0	-45.0	4.0	Fused Silica
LFS-1+50-ET5.8U	1.0	-50.0	5.8	Fused Silica

The lens listed above is only part of our product, please contact us for your customized optics.

- 10.6µm,1064nm,532nm,355nm (Air Spaced Doublet)

The purpose of developing doublet air spaced focusing lens is to minimize aberration and achieve smallest spot size.



10.6µm Air-spaced Doublet Focusing Lenses

Part No.	EFL (mm)	A (mm)	B (mm)	C (mm)	D (mm)
CO2FL25	25.0	23.0	40.0	25.3	10.8
CO2FL50	50.0	23.0	32.0	12.8	35.2
CO2FL63.5	63.5	23.0	30.0	16.0	45.3

1064nm Air-spaced Doublet Focusing Lenses

Part No.	EFL (mm)	A (mm)	B (mm)	C (mm)	D (mm)	Remark
YAGFL30	30.0	14.0	20.0	11.0	26.5	-
YAGFL35	35.0	16.0	20.0	11.0	32.0	-
YAGFL40	40.3	20.0	23.0	14.0	29.8	-
YAGFL60	60.0	20.0	23.0	14.0	54.5	-
YAGFL66	65.8	24.0	34.0	20.5	53.4	-
YAGFL71	70.8	26.0	28.0	22.5	64.9	-
YAGFL81	80.6	41.0	48.0	22.0	70.1	-
YAGFL85	85.3	26.0	28.0	22.5	80.0	-
YAGFL100W	100.2	23.0	29.0	18.0	86.9	Protective
YAGFL101	100.6	40.0	48.0	22.5	87.3	-
YAGFL120	120.1	34.0	41.0	17.0	112.5	-
YAGFL149	148.9	45.0	50.0	59.0	152.7	-
YAGFL153	153.4	68.0	75.0	43.0	129.3	-
YAGFL163	162.6	34.0	41.0	16.5	155.4	-
YAGFL170	170.3	45.0	50.0	43.0	169.8	-
YAGFL200	200.1	68.0	75.0	23.0	185.9	-
YAGFL201	201.4	48.0	54.0	15.0	193.7	-
YAGFL250A	249.8	48.0	57.0	14.5	237.6	Achromatic

532nm Air-spaced Doublet Focusing Lenses

Part No.	EFL (mm)	A (mm)	B (mm)	C (mm)	D (mm)
532nmFL30	29.8	14.0	20.0	11.0	25.0
532nmFL89	88.9	30.0	41.0	26.0	64.3
532nmFL115	114.5	30.0	40.0	17.0	107.8
532nmFL170	170.3	30.0	41.0	27.0	124.8
532nmFL200	200.0	28.0	38.0	15.5	193.8
532nmFL271	270.6	30.0	41.0	27.0	255.1

355nm Air-spaced Doublet Focusing Lenses

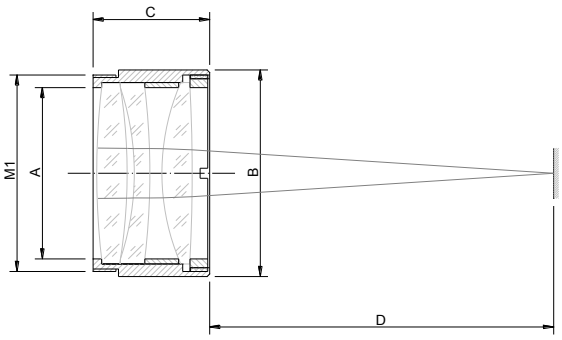
Part No.	EFL (mm)	A (mm)	B (mm)	C (mm)	D (mm)
355nmFL48	48.2	24.0	34.0	34.5	33.6
355nmFL86	86.4	28.0	40.0	23.2	65.1
355nmFL115	115.0	30.0	40.0	20.0	106.4

266nm Air-spaced Doublet Focusing Lenses

Part No.	EFL (mm)	A (mm)	B (mm)	C (mm)	D (mm)
266nmFL46	46.3	23.0	40.0	20.0	43.1
266nmFL82	82.4	30.0	40.0	20.0	73.8
266nmFL115	115.0	30.0	40.0	20.0	101.1

- 1064nm,532nm,355nm,266nm(Air Spaced Triplet)

The purpose of developing triplet air spaced focusing lens is to minimize aberration and achieve smallest spot size.
The achromatic triplet focus lens is color corrected, both working laser beam and inspection visible beam will focus on the same or closest focus point.



1064nm Air-spaced Triplet Focusing Lenses

Part No.	EFL (mm)	A (mm)	B (mm)	C (mm)	D (mm)	Remark
YAGFL25	25.2	18.0	26.0	18.0	19.5	-
YAGFL40A	40.1	26.0	36.0	22.0	29.8	Achromatic
YAGFL47	46.4	34.0	41.0	30.0	32.5	-
YAGFL47A	47.0	34.0	42.0	30.0	31.9	Achromatic
YAGFL50	50.0	26.0	36.0	19.0	29.3	-
YAGFL50W	50.0	26.0	36.0	26.0	32.3	-
YAGFL58	58.2	34.0	41.0	23.0	49.0	-
YAGFL58A	58.0	34.0	41.0	23.0	48.5	Achromatic
YAGFL77	77.0	34.0	41.0	23.0	67.9	-
YAGFL77A	77.0	34.0	41.0	23.0	63.5	Achromatic
YAGFL80	80.0	48.0	54.0	36.0	58.8	-
YAGFL90	90.0	35.0	41.0	32.0	90.1	-
YAGFL122	121.6	35.0	41.0	24.0	110.7	-
YAGFL125	125.1	43.0	52.0	29.0	113.1	-
YAGFL135	134.8	45.0	52.0	22.0	125.0	-

532nm Air-spaced Triplet Focusing Lenses

Part No.	EFL (mm)	A (mm)	B (mm)	C (mm)	D (mm)
532nmFL47	47.0	34.0	41.0	30.0	29.8
532nmFL77	76.6	35.0	41.0	24.0	64.1
532nmFL80	80.0	34.0	45.0	27.9	63.1
532nmFL89	89.4	35.0	41.0	32.0	88.8
532nmFL100	99.8	20.0	41.0	16.0	86.7

355nm Air-spaced Triplet Focusing Lenses

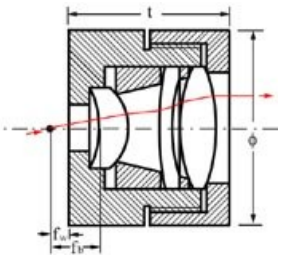
Part No.	EFL (mm)	A (mm)	B (mm)	C (mm)	D (mm)
355nmFL25	25.4	18.0	25.0	21.5	16.1
355nmFL47	47.0	34.0	41.0	28.0	32.7
355nmFL60	60.0	28.0	40.0	27.0	47.8

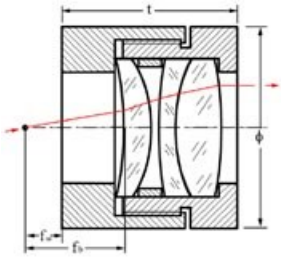
266nm Air-spaced Triplet Focusing Lenses

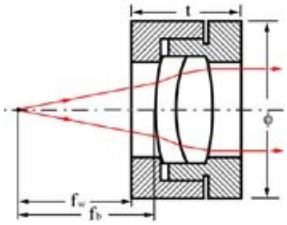
Part No.	EFL(mm)	A (mm)	B (mm)	C (mm)	D (mm)
266nmFL24	24.1	18.0	27.0	20.0	13.8
266nmFL57	57.3	28.0	40.0	23.5	44.6

- Collimating and Focusing Lenses Assemblies

Specifications
Wavelength Range: 635nm-980nm
Clear Aperture: 8.0±0.3mm
Surface Quality: 60/40 scratch and dig
Design Wavelength: 780nm
Coatings: Broadband AR-Coatings @ 635nm-980nm
Paraxial Focal length:±1% @ 780nm
Wavefront Distortion: λ/2 (p-v, over clear aperture, @ 632.8 nm)
Housing Material: Black anodized aluminum


COL0101


COL0102


COL0103

Collimating and Focusing Lenses

Part No	f(mm)	N.A.	f(mm)	t(mm)	f_w(mm)	f_b(mm)	Spot size(mm)
COL0101	8.0	0.500	15.0	12.0	1.0	3.1	2.0
COL0102	15.0	0.267	15.0	12.0	6.8	12.7	3.0
COL0103	25.4	0.157	20.0	8.0	20.0	23.9	5.0

Focal Length in Millimeters

Wavelength	635nm	650nm	670nm	780nm	830nm	980nm
COL0101	7.96	7.97	7.97	8.00	8.01	8.04
COL0102	14.94	14.95	14.96	15.00	15.03	15.08
COL0103	25.40	25.40	25.39	25.40	25.41	25.46