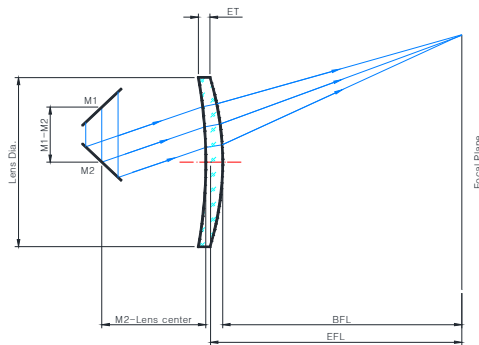


F-Theta Scan Lens 10.6/9.4μm

F-theta lenses are commonly used in conjunction with galvanometer scanning mirrors in laser engraving, cutting, and marking systems. Typically the F-theta distortion of this lens is kept less than 1% so that it produces a precise spot on the flat field on image plane.



Specifications	
Diameter Tolerance	+0.0, -0.13mm
Thickness Tolerance	±0.25mm
Paraxial Focal Length	±2%
ETV	3 arc minutes
Clear Aperture	>80%
Surface Flatness	λ/20 @10.6μm
Surface Quality	40-20 scratch and dig
AR/AR Coating	R<0.5% per surface @10.6μm

ZnSe SL1 Series -10.6/9.4μm F-theta Scan Lens

Part No.	EFL (mm)	Scan Field (mm)	*Spot size (μm)	Entrance Pupil (mm)	Max. Scan Angle (deg.)	Lens Dia (mm)	ET (mm)	BFL (mm)
SL1-10.6-F50-25.4	50.0	12x12	53.0	12.0	10.0	25.4	2.0	50.8
SL1-10.6-35-52Z1	52.0	35x35	67.0	10.0	30.0	50.0	1.5	52.7
SL1-10.6-F52Z-40	52.0	31x31	67.0	10.0	25.0	40.0	3.2	52.7
SL1-10.6-50-75Z	75.0	50x50	97.0	10.0	30.0	50.0	1.5	75.0
SL1-10.6-F75Z-48	75.0	50x50	97.0	10.0	28.0	48.0	3.0	75.9
SL1-10.6-F100Z-40	100.0	60x60	129.0	10.0	25.0	40.0	3.0	100.9
SL1-10.6-F100Z-48	100.0	69x69	107.4	12.0	28.0	48.0	2.4	100.9
SL1-10.6-F100Z-48A	100.0	70x70	106.7	12.0	29.0	48.0	3.0	102.8
SL1-10.6-F100Z-48B	100.0	66x66	210.5	12.0	28.0	48.0	3.0	101.1
SL1-10.6-F120Z-44	120.0	75x75	154.6	10.0	25.0	44.0	3.0	124.0
SL1-10.6-F150Z-40	150.0	90x90	193.4	10.0	25.0	40.0	3.6	152.7
SL1-10.6-F150Z-48	150.0	107x107	161.0	12.0	29.0	48.0	3.1	152.7
SL1-10.6-F200Z-48	200.0	140x140	171.0	15.0	28.0	48.0	3.0	204.3
SL1-10.6-F200Z-70	200.0	140x140	160.0	16.0	28.0	70.0	2.8	208.8
SL1-10.6-F250Z-48	250.0	175x175	214.0	15.0	28.0	48.0	3.2	256.0
SL1-10.6-F250Z-65	250.0	175x175	180.0	20.0	28.0	65.0	3.2	253.4
SL1-10.6-F300Z-48	300.0	210x210	322.0	12.0	28.0	48.0	3.9	308.6
SL1-10.6-F300Z-48B	300.0	215x215	322.0	12.0	28.0	48.0	3.0	307.7
SL1-10.6-F360Z-48	359.1	250x250	385.0	12.0	28.0	48.0	4.0	369.2

Part No.	EFL (mm)	Scan Field (mm)	*Spot size (µm)	Entrance Pupil (mm)	Max. Scan Angle (deg.)	Lens Dia (mm)	ET (mm)	BFL (mm)
SL1-10.6-F420Z-70	420.0	295x295	268.0	20.0	28.0	70.0	3.5	430.0
SL1-10.6-F420Z-75	420.0	300x300	268.0	20.0	28.0	75.0	3.4	430.0
SL1-10.6-F435Z-48	433.0	300x300	463.5	12.0	28.0	48.0	3.0	444.0
SL1-10.6-F450Z-48	448.5	320x320	478.0	12.0	28.0	48.0	2.8	462.0
SL1-10.6-F480Z-70	480.0	350x350	305.0	20.0	28.0	70.0	3.9	496.3
SL1-10.6-F480Z-48	480.0	335x335	515.0	12.0	28.0	48.0	2.6	492.0
SL1-10.6-F550-60	561.0	400x400	360.0	20.0	28.0	60.0	3.8	561.0
SL1-10.6-F573Z-48	573.0	415x415	614.0	12.0	28.0	48.0	4.2	591.0
SL1-10.6-F573Z-62	573.0	365x365	364.0	20.0	25.0	62.0	4.0	591.0
SL1-10.6-F574Z-75	574.0	400x400	364.0	20.0	28.0	75.0	3.8	591.0
SL1-10.6/9.4-F620Z-70	620.0	450x450	396.4	20.0	28.0	70.0	3.9	636.0
SL1-10.6/9.4-F720Z-75	720.0	500x500	454.6	20.0	28.0	75.0	2.7	741.0
SL1-10.6/9.4-F720Z-48	720.7	531x531	783.0	12.0	28.0	48.0	3.0	741.0
SL1-10.6-F740Z-88	740.0	540x540	476.3	20.0	28.0	88.0	4.2	759.0
SL1-10.6-F830Z-75	830.0	600x600	532.4	20.0	28.0	75.0	4.0	848.0
SL1-10.6-F977Z-48	976.0	715x715	1576.5	12.0	28.0	48.0	3.1	990.5
SL1-10.6-F1100Z-76	1100.0	700x700	558.7	25.0	25.0	76.0	5.2	1138.0
SL1-10.6-F1150Z-48	1150.0	800x800	1231.0	12.0	28.0	48.0	3.0	1177.0
SL1-10.6-F1191Z-48	1191.6	770x770	1276.0	12.0	25.0	48.0	3.0	1220.0
SL1-10.6-F2122Z-48	2128.0	1385x1385	2283.0	12.0	25.0	48.0	3.5	2176.0

Material: Z- ZnSe (transmit both 10.6µm and visible)

*spot size for reference only.

*9.4µm F-theta Scan Lens is available upon request



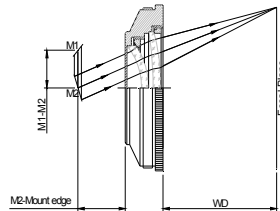
SL058 - R with M85x1



SL051 - S with 3 holes @ 120 deg

ZnSe/GaAs SL2 Series - Doublet F-theta Scan Lens

Doublet F-theta Scanning lens provide better performance than singlet. It has more ever spot size and less distortion over the scan field. We use ZnSe or GaAs for this series of scan lens.



Part No.	EFL (mm)	Scan Field (mm)	*Spot size (μm)	Entrance Pupil (mm)	Max. Scan Angle (deg.)	BFL (mm)	Thread	M1-M2 Separation (mm)	WD (mm)
SL2-10.6-35-60GR	60.5	35x35	75.0	12.0	25.0	62.3	M85x1	17.0	57.8
SL2-10.6-50-80GR	80.0	50x50	113.3	14.0	25.0	83.4	M85x1	20.0	75.7
SL2-10.6-70-122GR	122.0	70x70	129.5	14.0	23.0	137.3	M85x1	20.0	135.9
SL2-10.6-110-150ZR	150.0	105x105	171.7	14.0	28.0	164.3	M85x1	20.0	161.7
SL2-10.6-110-170GR	170.0	110x110	224.6	10.0	23.0	188.7	M85x1	13.0	185.1
SL2-10.6-140-220GR	220.0	140x140	243.2	14.0	25.0	248.0	M85x1	16.0	243.7
SL2-10.6-175-275GR	275.0	170x170	390.0	10.0	22.0	307.7	M85x1	14.0	302.8
SL2-10.6-F200ZR	200.0	140x140	193.5	14.0	28.8	230.7	M85x1	16.0	229.4
SL2-10.6-F250ZR	250.0	175x175	252.5	14.0	28.4	284.7	M85x1	20.0	286.1
SL2-10.6-F300ZR-20	300.0	210x210	260.0	20.0	28.0	331.6	M85x1	20.0	327.8
SL2-10.6-300-420AZR	420.0	300x300	349.6	16.0	20.0	466.5	M85x1	20.0	465.97
SL2-10.6-300-420GR	420.0	300x300	450.0	11.8	28.0	471.3	M85x1	20.0	463.1
SL2-10.6-350-490ZR	490.0	350x350	422.0	18.0	27.7	536.5	M85x1	25.7	535.2

* Material: G - GaAs (transmit 10.6μm only)
 Z - ZnSe (transmit both 10.6 and visible)

*spot size for reference only

ZnSe SL3 Series - Triplet F-theta Scan Lens

Part No.	EFL (mm)	Scan Field (mm)	*Spot size (μm)	Entrance Pupil (mm)	Max. Scan Angle (deg.)	BFL (mm)	Thread	M1-M2 Separation (mm)	WD (mm)	Wavelength
SL3-10.6-50-80	80.0	50x50	80.6	14.0	25.3	94.1	M85x1	14.0	88.0	10.6μm
SL3-9.4-50-80W	80.0	50x50	82.0	14.0	25.0	94.1	M85x1	14.0	92.0	9.4μm
SL3-9.4-60-105Z	105.0	60x60	108.0	14.0	23.0	132.0	M55x1	14.0	130.6	9.4μm

*spot size for reference only