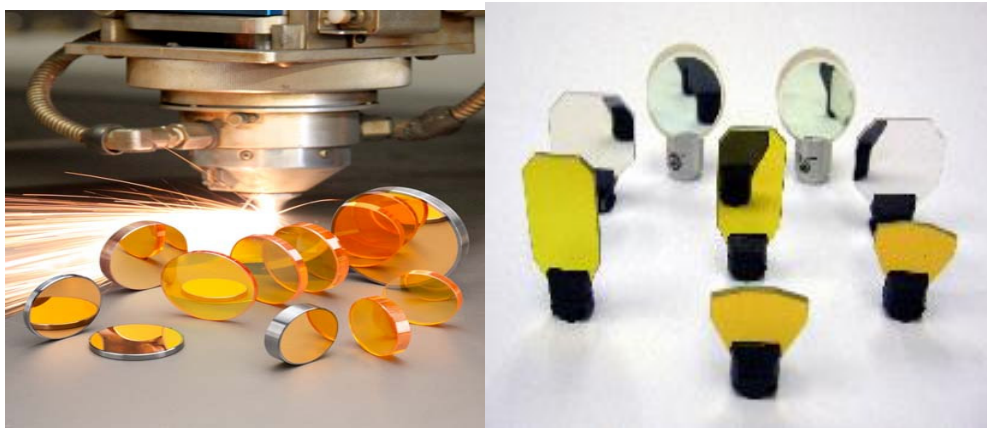


GHOLOGRAPHIC COMPANY



LASER OPTICS

Scan Lens / Beam Expander / Scanning Mirror



Benefits

- **High Quality Product**
- **Guarantee for quality**
- **Best price**
- **Save your time & cost in getting best product from us.**



Laser Marking / Cutting System

Gholographic Company will provide optics and Optics Components for all laser industry & its application.

We have wide range of product in good price & good quality.

Industry Uses Our Products:

- Printing
- Marking and Engraving
- Scribing
- Dicing
- Drilling
- Flow Cytometry
- Material micromachining
- Sintering
- Microwelding
- Laser ablation

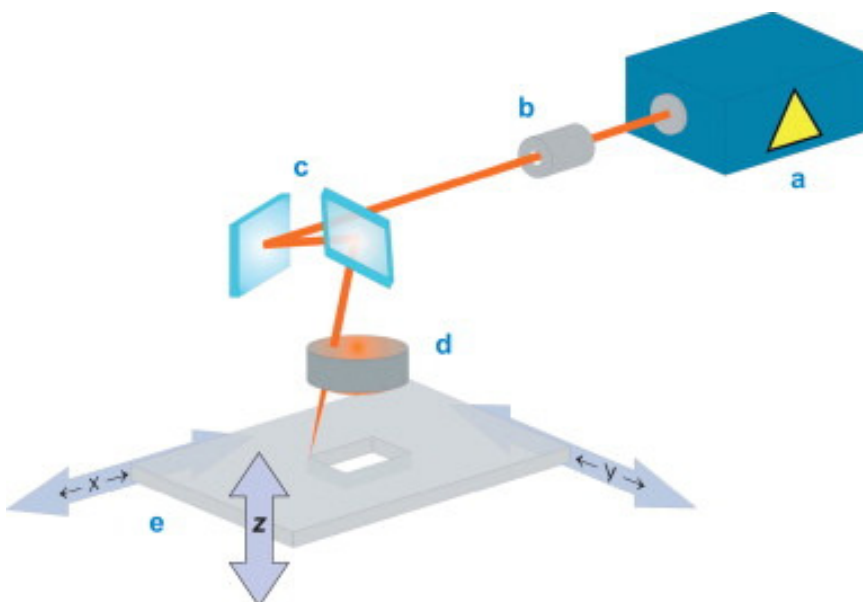




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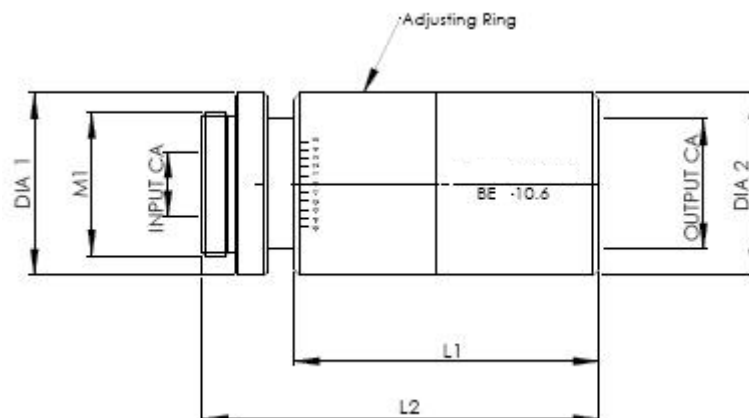
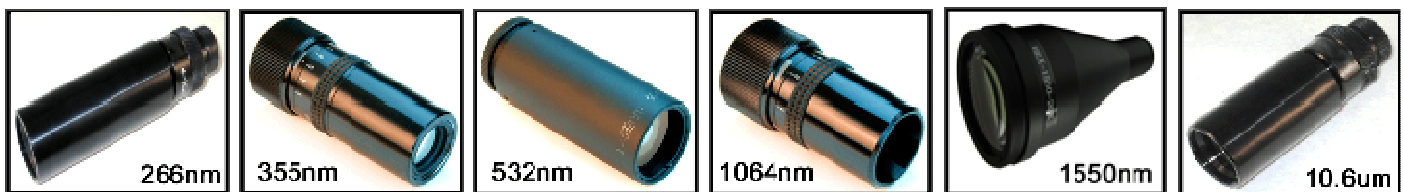
Beam Expander

Beam Expander

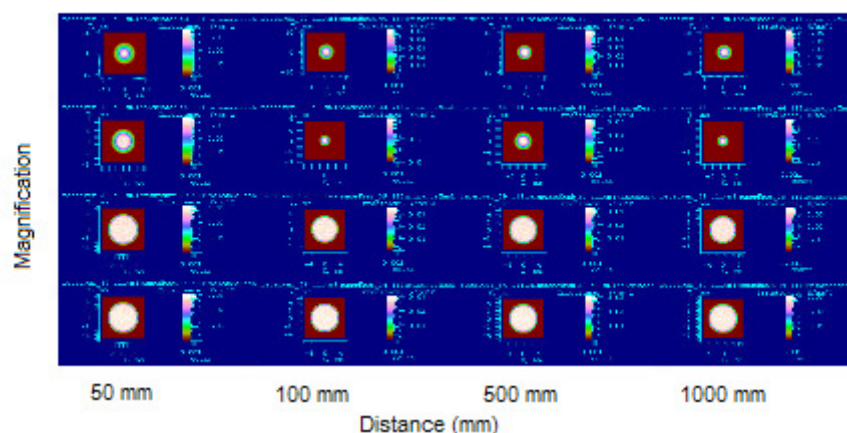
Beam Expander is an Optical Component used in laser industry for expansion of beam. It is used for various applications such as laser scanning, interferometry, and remote sensing. We are able to provide expansion from 1 X to 50 X fixed magnification. We have newly developed Motorized Zoom Beam Expander; having expansion from 1 X to 8 X. we have beam expander from 266 nm to 10600 nm wavelength.

Advantage:

Input Beam is collimated or diverging; output from our beam expander is collimated with bigger beam diameter.



Laser Energy Profile At Different Distance



Beam Expander — 1064 nm

Part No.	Magnification	Input CA (mm)	Output CA (mm)
EXPANDER-1064-1X	1.0	15.5	23.0
EXPANDER-1064-1.2X	1.2	16.0	23.0
EXPANDER-1064-1.5X	1.5	15.0	22.0
EXPANDER-1064-1.5X1	1.5	15.5	23.0
BET2X/1064	2.0	3.0	4.0
EXPANDER-1064-2X	2.0	10.0	20.0
EXPANDER-1064-2X1	2.0	15.0	23.0
EXPANDER-1064-2.5X1	2.5	10.0	23.0
EXPANDER-1064-2.5X	2.5	10.0	23.0
EXPANDER-1064-3X1	3.0	10.0	33.0
EXPANDER-1064-3X3	3.0	10.0	23.0
EXPANDER-1064-3X	3.0	10.0	20.0
BET3X/1064	3.0	10.0	17.0
EXPANDER-1064-4X	4.0	10.0	22.0
EXPANDER-1064-5X	5.0	10.0	23.0
EXPANDER-1064-5Z	5.0	10.0	32.0
EXPANDER-1064-5Z1	5.0	10.0	32.0
BET5X/1064	5.0	10.0	23.0
EXPANDER-1064-5X1	5.0	10.0	16.0
EXPANDER-1064-6X	6.0	10.0	22.0
EXPANDER-1064-6X1	6.0	10.5	26.0
EXPANDER-1064-6X2	6.0	6.0	16.0
EXPANDER-1064-6A	6.0	6.0	13.0
EXPANDER-1064-6Z1	6.0	10.0	26.0
EXPANDER-1064-7X	7.0	6.0	23.0
EXPANDER-1064-8X	8.0	10.0	22.0
EXPANDER-1064-8Z	8.0	10.0	34.0
EXPANDER-1064-10X1	10.0	11.0	34.0
EXPANDER-1064-10X	10.0	8.0	22.0
EXPANDER-1064-12A	12.0	6.0	13.0
EXPANDER-1064-15X	15.0	7.5	28.0
EXPANDER-1064-20X	20.0	8.0	28.0
EXPANDER-1064-30X-100OP	30.0	10.0	100.0
EXPANDER-1064-30X	30.0	6.0	38.0
EXPANDER-1064-40X	40.0	1.2	50.0
EXPANDER-1064-40X-120OP	40.0	8.0	128.0

Beam Expander — 10.6 um

Part No.	Magnification	Input CA (mm)	Output CA (mm)
EXPANDER-9.4-2X	2.0	16.5	23.0
EXPANDER-9.4-3X	3.0	10.0	20.0
EXPANDER-9.4-5X	5.0	13.0	23.0
EXPANDER-10.6-1X	1.0	16.0	18.0
EXPANDER-10.6-1.5Z	1.5	12.0	14.0
EXPANDER-10.6-2Z1	2.0	10.0	22.0
EXPANDER-10.6-2Z3	2.0	15.0	28.0
EXPANDER-10.6-2Z4	2.0	10.0	15.0
BET2.5X/10.6	2.5	3.0	4.0
EXPANDER-10.6-2.5A	2.5	14.0	23.0
EXPANDER-10.6-2.5Z	2.5	10.0	15.0
EXPANDER-10.6-2.5Z1	2.5	10.0	16.0
EXPANDER-10.6-2.5Z2	2.5	10.0	20.0
EXPANDER-10.6-3Z1	3.0	10.0	16.0
EXPANDER-10.6-3Z2	3.0	10.0	20.0
EXPANDER-10.6-3Z3	3.0	10.0	16.0
EXPANDER-10.6-3Z4	3.0	10.0	25.0
EXPANDER-10.6-3Z5	3.0	15.0	35.0
EXPANDER-10.6-3Z6	3.0	15.0	28.0
EXPANDER-10.6-3.3Z1	3.3	10.0	15.0
BET4X/10.6	4.0	11.0	17.0
EXPANDER-10.6-4Z	4.0	10.0	16.0
EXPANDER-10.6-4Z1	4.0	10.0	20.0
EXPANDER-10.6-4Z2	4.0	15.0	28.0
EXPANDER-10.6-4Z3	4.0	10.0	20.0
BET5X/10.6	5.0	12.0	23.0
EXPANDER-10.6-5X-S	5.0	10.5	36.0
EXPANDER-10.6-5Z	5.0	10.0	16.0
EXPANDER-10.6-5Z1	5.0	13.0	23.0
EXPANDER-10.6-5Z1i	5.0	13.0	23.0
EXPANDER-10.6-6Z	6.0	11.0	26.0
EXPANDER-10.6-6Z1	6.0	10.0	36.0
EXPANDER-10.6-6Z2	6.0	10.0	15.0
EXPANDER-10.6-7X	7.0	37.0	68.0
EXPANDER-10.6-8Z1	8.0	13.0	33.0
EXPANDER-10.6-8Z2	8.0	10.5	23.4
EXPANDER-10.6-10X	10.0	12.0	50.0
EXPANDER-10.6-10Z1	10.0	10.0	36.0

Beam Expander — 532 nm

Part No.	Magnification	Input CA (mm)	Output CA (mm)
EXPANDER-532-2X2	2.0	8.0	23.0
EXPANDER-532-2XA	2.0	13.0	23.0
EXPANDER-532-3X	3.0	6.0	23.0
EXPANDER-532-4X	4.0	6.0	23.0
EXPANDER-532-5X	5.0	8.0	24.0
EXPANDER-532-6X	6.0	6.0	23.6
EXPANDER-532-8X1	8.0	6.0	16.0
EXPANDER-532-10X2	10.0	4.0	30.0
EXPANDER-532-10X	10.0	6.0	23.0
EXPANDER-532-12X	12.0	7.0	24.0
EXPANDER-532-15X	15.0	6.0	32.0
EXPANDER-532-15V	15.0	6.0	32.0
EXPANDER-532-18X	18.0	5.0	40.0
EXPANDER-532-20X-Q	20.0	8.0	32.0
EXPANDER-532-30X	30.0	5.0	38.0





Beam Expander — 633 nm

Part No.	Magnification	Input CA (mm)	Output CA (mm)
EXPANDER-633-3X	3.0	10.0	23.0
EXPANDER-633-5X	5.0	8.0	23.0
EXPANDER-633-8X	8.0	11.0	23.5
EXPANDER-633-10X	10.0	8.0	23.0
EXPANDER-633-20X	20.0	8.0	76.0
EXPANDER-633-40X	40.0	8.0	100.0
EXPANDER-633-50X	50.0	10.0	81.0

Beam Expander — 355 nm

Part No.	Magnification	Input CA (mm)	Output CA (mm)
EXPANDER-355-1.5X	1.5	7.0	24.0
EXPANDER-355-2X2	2.0	6.0	23.0
EXPANDER-355-2X	2.0	7.0	24.0
EXPANDER-355-3X	3.0	7.0	24.0
EXPANDER-355-4X	4.0	8.0	28.0
EXPANDER-355-4XA	4.0	8.0	28.0
EXPANDER-355-5X	5.0	8.0	28.0
EXPANDER-355-7X	7.0	8.0	28.0
EXPANDER-355-8X	8.0	8.0	28.0
EXPANDER-355-10X	10.0	6.0	28.0
EXPANDER-355-15X	15.0	6.0	28.0
EXPANDER-355-20X	20.0	6.0	28.0



Beam Expander — 266 nm

Part No.	Magnification	Input CA (mm)	Output CA (mm)
EXPANDER-266-1.5X	1.5	8.0	24.0
EXPANDER-266-2X	2.0	8.0	24.0
EXPANDER-266-3X	3.0	10.0	23.0
EXPANDER-266-5X	5.0	10.0	23.0
EXPANDER-266-8X1	8.0	10.0	66.0
EXPANDER-266-10X	10.0	6.0	23.0
EXPANDER-266-20X	20.0	5.0	30.0

Beam Expander — 1550 nm

Part No.	Magnification	Input CA (mm)	Output CA (mm)
EXPANDER-1550-2.5X	2.5	8.0	23.0
EXPANDER-1550-3X	3.0	8.0	23.0
EXPANDER-1550-7X	7.0	10.0	25.0
EXPANDER-1550-8X	8.0	10.0	30.0
EXPANDER-1550-10X	10.0	10.0	58.0
EXPANDER-1550-20X	20.0	-	-

Beam Expander — 405 nm

Part No.	Magnification	Input CA (mm)	Output CA (mm)
EXPANDER-405-1.5X	1.5	6.0	30.0
EXPANDER-405-2X	2.0	6.0	30.0
EXPANDER-405-3X	3.0	6.0	30.0
EXPANDER-405-5X	5.0	6.0	30.0
EXPANDER-405-7X	7.0	4.2	30.0
EXPANDER-405-10X	10.0	3.0	30.0
EXPANDER-405-20X	20.0	1.5	30.0



Beam Expander — Various

680nm Wavelength

Part No.	Magnification	Input CA (mm)	Output CA (mm)
EXPANDER-680-4A	4.0	5.0	17.0

904nm Wavelength

Part No.	Magnification	Input CA (mm)	Output CA (mm)
EXPANDER-904-10X	10.0	8.0	28.0

1053nm Wavelength

Part No.	Magnification	Input CA (mm)	Output CA (mm)
EXPANDER-1053-5X	5.0	8.0	25.0
EXPANDER-1053-10X	10.0	10.0	73.0

1090nm Wavelength

Part No.	Magnification	Input CA (mm)	Output CA (mm)
EXPANDER-1090-2.8X	2.8	9.0	24.0
EXPANDER-1090-3.7X	3.7	9.0	19.0
EXPANDER-1090-4X	4.0	9.0	30.0

2250nm Wavelength

Part No.	Magnification	Input CA (mm)	Output CA (mm)
EXPANDER-2.25-3X	3.0	10.0	18.0
EXPANDER-2.25-6X	6.0	10.0	18.0

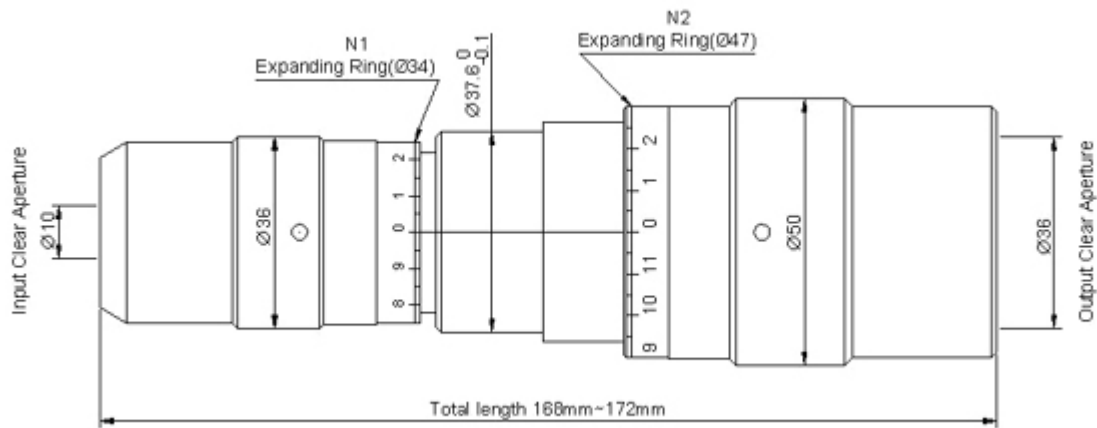
2790nm Wavelength

Part No.	Magnification	Input CA (mm)	Output CA (mm)
EXPANDER-2790-6X	6.0	13.0	30.0

Motorized Zoom Beam Expander

Motorized Zoom Beam Expander is controlled by micro-motor drive system, in order to control the divergence of laser beam and to achieve continuous adjustment. This motorized system is composed of electro-mechanical components and a pair of meshing gear. Controlled board is another separated unit. This motorized beam expander will be connected with a PC, so as to remotely control. In addition, as the controllability on its motor revolutions, focusing adjustment becomes more accurate.

Our Motorized beam expander for 10.6um / 1064nm / 633nm/ 532nm / 355nm and customized expander from 1-8 X Magnification.



Model No.	Wavelength (nm)	Input CA (mm)	Output CA(mm)	MagnificationX
BE-10.6-2-8X	10600	10	36	2X to 8 X
BE-1064-1-8X	1064	12	32	1X to 8X
BE-633-1-8X	532	12	32	1X to 8X
BE-532-1-8X	532	12	32	1X to 8X
BE-355-1-8X	355	12	32	1X to 8X
BE-266-1-8X	266	12	32	1X to 8X

Beam Expander—Water Cooled

BET-WC *water cool beam expander* series is developed for even higher power CO2 laser >500W with consistence in outer dimension and water pipe connection.



Part No.	Magnification	Input CA (mm)	Output CA (mm)	Length (mm)	Max. OD (mm)
BET0101.5-WC	1.5	20.0	28.0	80.0	66.0
BET0102-WC	2.0	20.0	28.0	80.0	66.0
BET0103-WC	3.0	20.0	28.0	80.0	66.0
BET0104-WC	4.0	20.0	28.0	80.0	66.0
BET0105-WC	5.0	20.0	28.0	80.0	66.0
BET0106-WC	6.0	22.0	28.0	80.0	66.0
BET0107-WC	7.0	20.0	28.0	80.0	66.0
BET0108-WC	8.0	20.0	28.0	80.0	66.0
BET0110-WC	10.0	20.0	28.0	80.0	66.0

F—theta Scan Lens : 1064 nm

F-theta lenses

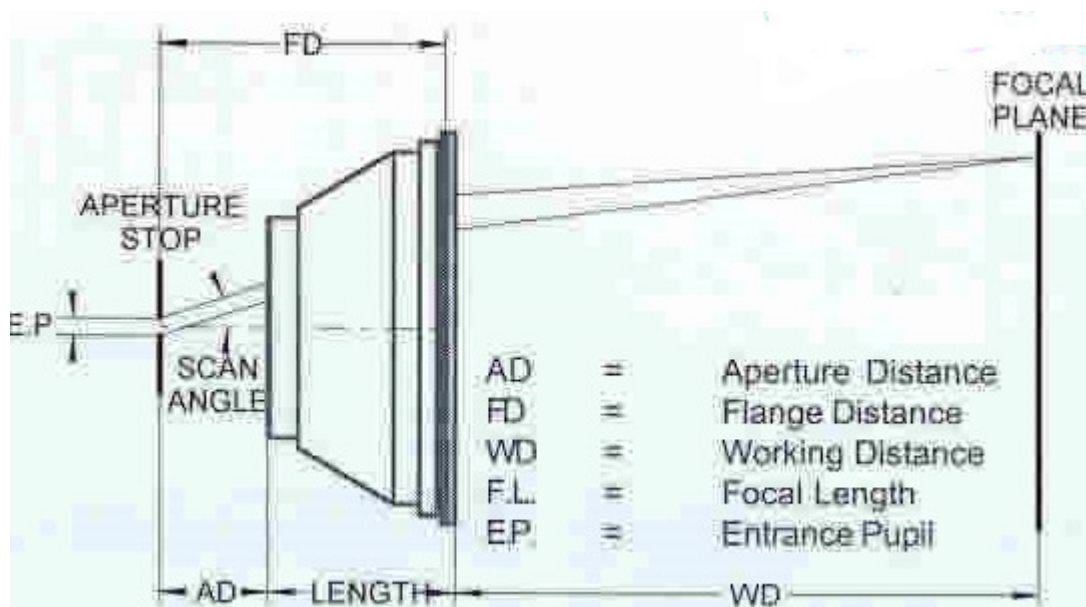
F-theta lenses used for laser marking/scanning/ engraving application. scanning area is linear relationship between the input scan angle and the focal position on a flat plane. We have scanning lens from 266 to 10600 nm wavelength.



Model No.	EFL (mm)	Scan Area (mm)	Input Beam(mm)	WD(mm)
FTHETA-1064-45-80	80.0	45*45	10.0	91.4
FTHETA-1064-70-100	100.0	70*70	14.0	100.0
FTHETA-1064-65-125	125.0	65*65	15.0	146.6
FTHETA-1064-105-152	152.0	105*105	14.0	175.0
FTHETA-1064-F160-30	160.0	90*90	30.0	171.6
FTHETA-1064-50-160	160.0	50*50	8.0	182.3
FTHETA-1064-100-160A	160.0	100*100	10.0	178.6
FTHETA-1064-110-160B	160.0	110*110	12.0	187.1
FTHETA-1064-107-163	163.0	107*107	12.0	181.2
FTHETA-1064-114-163R1	163.0	114*114	15.0	184.0
FTHETA-1064-112-163	163.0	112*112	14.0	184.0
FTHETA-1064-112-163A	163.0	112*112	10.0	181.7
FTHETA-1064-F165-25	165.0	100*100	25.0	197.1
FTHETA-1064-152-192	192.0	152*152	15.0	221.8
FTHETA-1064-F201-30	201.0	30*30	30.0	243.0
FTHETA-1064-140-210	210.0	140*140	14.0	238.4
FTHETA-1064-F254-30	254.0	100*100	30.0	303.3
FTHETA-1064-F254B	254.0	175*175	10.0	280.0
FTHETA-1064-175-254	254.0	175*175	16.0	288.0
FTHETA-1064-180-260	260.0	180*180	10.0	297.0
FTHETA-1064-F310-25	310.0	200*200	25.0	352.3
FTHETA-1064-205-330	330.0	205*205	14.0	385.0
FTHETA-1064-305-338	338.0	305*305	15.0	362.8
FTHETA-1064-300-420	420.0	300*300	14.0	495.5
FTHETA-1064-330-580	580.0	330*330	10.0	709.5
FTHETA-1064-500-815	815.0	500*500	24.0	962.0

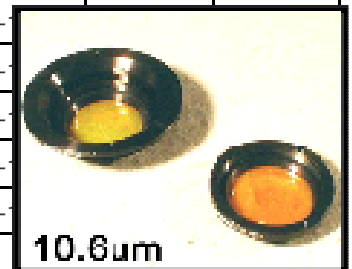
F—theta Scan Lens : 532 nm

Model No.	EFL (mm)	Scan area (mm)	Input Beam(mm)	WD(mm)
FTHETA-532-70-100	100.0	70*70	14.0	100.9
FTHETA-532-90-120A	120.0	80*80	8.0	134.0
FTHETA-532-115-165	165.0	115*115	10.0	188.5
FTHETA-532-180-254	254.0	180*180	10.0	303.3
FTHETA-532-150-254B	254.0	150*150	10.0	294.0
FTHETA-532-150-254	254.0	150*150	10.0	280.0
FTHETA-532-225-410	410.0	225*225	15.0	443.7
FTHETA-532-335-520	520.0	355*355	16.0	599.2
FTHETA-532-510-740	740.0	510*510	16.0	896.5
FTHETA-532-500-750	750.0	500*500	16.0	911.2



F—theta Scan Lens : 355 nm

Model No.	EFL (mm)	Scan area (mm)	Input Beam(mm)	WD(mm)				
FTHETA-355-60-100Q	100.0	60*60	6.0	133.4				
FTHETA-355-105-170Q	170.0	105*105	6.0	216.1				
FTHETA-355-155-250	250.0	155*155	10.0	299.8				
FTHETA-355-F290-20	290.0	180*180	20.0	332.5				
FTHETA-355-180-295A	295.0	180*180	10.0	359.0				
FTHETA-355-180-295	295.0	180*180	10.0	362.8				
FTHETA-355-212-300	300.0	212*212	10.0	364.0				
FTHETA-355-210-328	328.0	210*210	10.0	406.4				
FTHETA-355-250-410	407.5	250*250	10.0	488.2				
FTHETA-355-350-580	580.0	350*350	10.0	684.8				
FTHETA-355-500-815	815.0	500*500	10.0	976.4				
FTHETA-355-650-1000	1000.0	650*650	10.0	1200.1				
Part No.	Reference	(mm)	number	size	minimum focus distance (m)	F-number range	Length (mm)	Weight (g)



F—theta Scan Lens : 266 nm

Model No.	EFL (mm)	Scan area (mm)	Input Beam(mm)	WD(mm)
FTHETA-266-70-100	101.5	70*70	5.0	129.4
FTHETA-266-100-160	162.3	100*100	5.0	198.8
FTHETA-266-90-254	254.0	90*90	4.0	253.0



Achromatic Ftheta Scan Lens

1064/532 Series

Model No.	EFL (mm)	Scan Area	Input Beam (mm)	WD(mm)
ACHROMATIC FTHETA-1064-532-60-100	100.0	60*60	10.0	68.7
ACHROMATIC FTHETA-1064-532-100-163	163.0	100*100	12.0	159.7
ACHROMATIC FTHETA-1064-532-175-254	254.0	175*175	15.0	262.8

1064/635 Series

Model No.	EFL (mm)	Scan Area (mm)	Input Beam (mm)	WD(mm)
ACHROMATIC FTHETA-1064-635-60-100	100.0	60*60	10.0	79.5
ACHROMATIC FTHETA-1064-635-100-163	163.0	100*100	12.0	157.6
ACHROMATIC FTHETA-1064-635-180-260	260.0	180*180	15.0	261.4

355/532 Series

Model No.	EFL (mm)	Scan Area (mm)	Input Beam (mm)	WD(mm)
ACHROMATIC FTHETA-355-532-90-170	170.0	90*90	10.0	125.6

355/635 Series

Model No.	EFL (mm)	Scan Area (mm)	Input Beam (mm)	WD(mm)
ACHROMATIC FTHETA-355-635-90-170	170.0	90*90	10.0	116.1
ACHROMATIC FTHETA-355-635-110-220	220.0	110*110	10.0	166.3
ACHROMATIC FTHETA-355-635-212-328	328.0	212*212	6.0	265.2

Achromatic Ftheta Scan Lens

532/635 Series

Model No.	EFL (mm)	Scan Area (mm)	Input Beam (mm)	WD(mm)
ACHROMATIC FTHETA-532-635-100-163	163.0	100*100	10.0	121.0

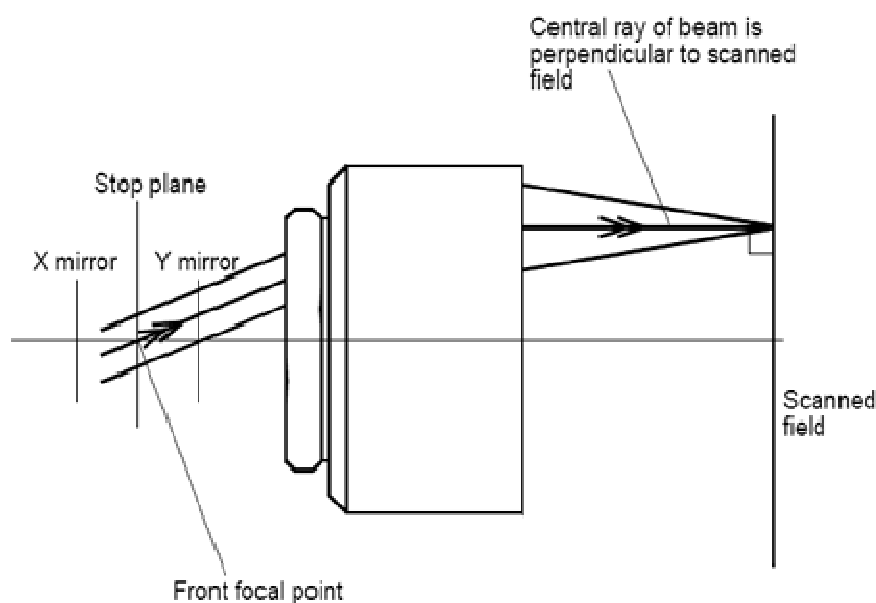
940/808 Series

Model No.	EFL (mm)	Scan Area (mm)	Input Beam (mm)	WD(mm)
ACHROMATIC FTHETA-940-808-102-163	163.0	102*102	20.0	153.6



Telecentric Scan Lenses

Telecentric scanning lenses, similar to Ftheta Lens only difference is that Telecentric maintain normal incidence angle of the beam to the work piece. This ensures that position errors and image distortions are minimized over the entire scan range. Telecentric scanning lenses offer greater depth of field and smaller spot sizes when marking objects for laser material processing. Having a greater depth of field and smaller spot size are important for precision laser micro-machining processes where there is a need to produce fine spot sizes so as to control the width of a laser mark, scribe or drilled hole while maintaining precise placement over a relatively large field. The ability to accomplish this is sometimes affected by just minimal warping of a wafer or solar panel.



Model No.	EFL (mm)	Scan Area (mm)	Input Beam (mm)
TELECENTRIC LENS-9.4-50-75	75.0	50*50	20.0
TELECENTRIC LENS-9.4-50-75+Win	75.0	50*50	20.0
TELECENTRIC LENS-9.4-70-120	120.0	70*70	20.0
TELECENTRIC LENS-9.6-50-100Z	100.0	50*50	15.0
TELECENTRIC LENS-9.6-70-140Z	140.0	70*70	15.0
TELECENTRIC LENS-10.6-50-100G	100.0	50*50	25.0



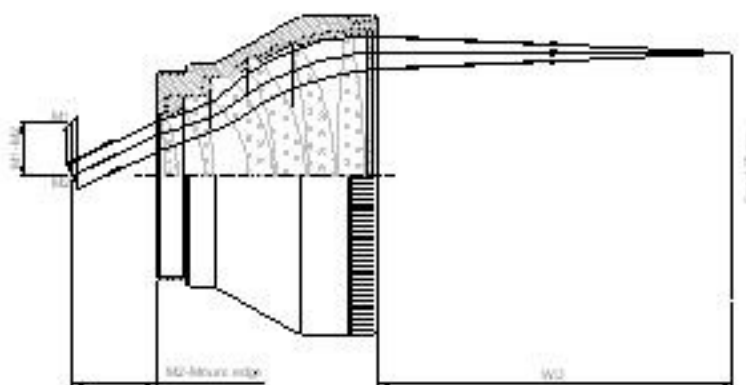
Telecentric Scan Lenses

Telecentric Scanning Lens --- 1550/1064/1030/670/633/532/405/355/266nm

Model No.	EFL (mm)	Scan Area (mm)	Input Beam (mm)
TELECENRIC LENS-1550-25-80	80.0	25*25	10.0
TELECENRIC LENS-1550-15-80	80.0	15*15	12.0
TELECENRIC LENS-1550-80-195	195.0	80*80	15.0
TELECENRIC LENS-1064-18-56	56.0	18*18	10.0
TELECENRIC LENS-1064-20-56	56.0	20*20	10.0
TELECENRIC LENS-1064-F100-25	100.0	40*40	25.0
TELECENRIC LENS-1064-65-115	115.0	65*65	12.0
TELECENRIC LENS-1064-73-163B	163.0	73*73	10.0
TELECENRIC LENS-1064-73-163A	163.0	73*73	15.0
TELECENRIC LENS-532-73-163B	163.0	73*73	10.0
TELECENRIC LENS-1064-90-190	190.0	90*90	18.0
TELECENRIC LENS-1064-50-210	210.0	50*50	25.0
TELECENRIC LENS-1064-140-220	220.0	140*140	15.0
TELECENRIC LENS-1030-10-50	50.0	10*10	8.0
TELECENRIC LENS-808-14-56	56.3	14*14	10.0
TELECENRIC LENS-808-19-77	76.8	19*19	10.0
TELECENRIC LENS-808-39-80	79.5	39*39	25.0
TELECENRIC LENS-808-68-106	105.6	68*68	12.0
TELECENRIC LENS-670-34-88	88.0	34*34	7.0
TELECENRIC LENS-670-77-157	157.3	77*77	10.0
TELECENRIC LENS-633-19-75	74.8	19*19	10.0
TELECENRIC LENS-633-34-87	87.5	34*34	7.0
TELECENRIC LENS-633-30-100	100.6	30*30	10.0
TELECENRIC LENS-633-77-156	156.1	77*77	10.0
TELECENRIC LENS-633-75-160	160.0	75*75	10.0
TELECENRIC LENS-633-75-200	200.0	75*75	20.0

Telcentric Scan Lens

Model No.	EFL (mm)	Scan Area (mm)	Input Beam (mm)
TELECENRIC LENS-532-15-58	58.0	15x15	10.0
TELECENRIC LENS-532-45-80	80.0	45*45	12.0
TELECENRIC LENS-532-36-90	90.0	36*36	20.0
TELECENRIC LENS-532-60-105	105.0	60x60	10.0
TELECENRIC LENS-532-36-100	110.0	36*36	16.0
TELECENRIC LENS-532-50-120	120.0	50*50	15.0
TELECENRIC LENS-532-78-163	163.0	78*78	10.0
TELECENRIC LENS-532-75-163A	163.0	75*75	10.0
TELECENRIC LENS-532-140-200	200.0	140*140	10.0
TELECENRIC LENS-532-70-200	200.0	70*70	20.0
TELECENRIC LENS-405-29-55	55.0	30*30	6.0
TELECENRIC LENS-355-8-32	32.0	8*8	10.0
TELECENRIC LENS-355-18-56	56.0	18*18	6.0
TELECENRIC LENS-355-18-60	60.0	18*18	6.0
TELECENRIC LENS-355-60-100Q	100.0	60x60	6.0
TELECENRIC LENS-355-63-109	109.0	63*63	6.0
TELECENRIC LENS-355-60-115Q	115.0	60*60	6.0
TELECENRIC LENS-355-60-167A	167.0	60*60	10.0
TELECENRIC LENS-355-85-254	254.0	85*85	6.0
TELECENRIC LENS-266-10-30	30.1	10*10	6.0
TELECENRIC LENS-266-20-55	55.0	20*20	6.0
TELECENRIC LENS-266-50-100	100.0	50*50	5.0
TELECENRIC LENS-266-55-158	158.0	55*55	10.0
TELECENRIC LENS-266-80-200	200.0	80*80	8.0



Achromatic Telcentric Scan Lens

The focal length, working distance and focus spot are identially for both laser working wavelength and visible wavelength, it will help CCD to capture the actual image through F theta scan lens, generally low dispersion crown glass and high dispersion flint glass are jointly used to correct the chromatic aberration.

Model No.	EFL (mm)	Scan Area (mm)	Input Beam (mm)	Wavelength (nm)
TELECENRIC LENS-1064-660-60-163	163.0	60*60	15.0	1064/660
TELECENRIC LENS-532-635-50-120A	120.0	50*50	15.0	532/635
TELECENRIC LENS-532-635-60-150A	150.0	60x60	15.0	532/635



Scanning Mirror

Scanning mirrors are used for high speed two-axis laser scanner system. The dimension of each mirror have been calculated to allow for scanning of a laser beam at up to 25 degrees off-axis. The mirrors have high reflectivity and so may be safe at high powers.

Specification:

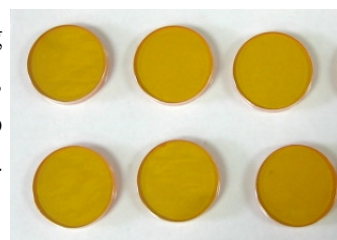
- Flatness: $\lambda/4$ @633nm, Scratch/Dig: 40/20, Reflective coating:1-sided
- Silicon, Gold or Silver coating for CO2 Laser (10.6um)
- Si/BK7/FS, Dielectric or Silver coating for Nd:YAG Laser (1064nm/650nm/532nm)
- Si/BK7/FS, Dielectric coating for Green & Visible Laser (650nm/355nm)
- Mounted scanning mirror are available upon request.



Part No.	Dimension L*W*T (mm)	Substrate	Beam Size	X/Y
SCM-8.4x11.5x1.05	8.4x11.5x1.05	Si/BK7/FS	5	X1
SCM-60x80x4	60x80x(1.5-4)	Si/BK7/FS	40	Y23
SCM-47x76x5	47x76x5	Si/BK7/FS	30	Y22
SCM-46.7x70.1x4	46.7x70.1x4	Si/BK7/FS	30Y	Y21
SCM-45x70x4	45x70x(1.5-4)	Si/BK7/FS	30	X23
SCM-43x63x4	43x63x4	Si/BK7/FS	30	Y19
SCM-42x65x2	42x65x2	Si/BK7/FS	30	Y20
SCM-40x64x5	40x64x5	Si/BK7/FS	30	X22
SCM-40.1x54.9x4	40.1x54.9x4	Si/BK7/FS	30	X21
SCM-45x35x2	35x45x2	Si/BK7/FS	30	-
SCM-35x45x2	35x45x2	Si/BK7/FS	25	Y16/X20
SCM-34x55x4	34x55x4	Si/BK7/FS	25	X19
SCM-32x39x2	32x39x2	Si/BK7/FS	20	Y17
SCM-31x49x2.5	31x49x2.5	Si/BK7	25	Y24
SCM-30x42x4	30x42x4	Si/BK7/FS	20	Y13
SCM-30x35x2	30x35x2	Si/BK7/FS	20	Y15
SCM-27x32x2	27x32x2	Si/BK7/FS	20	X18
SCM-25x38x2	25x38x2	Si/BK7/FS	15	-
SCM-25x35x2	25x35x2	Si/BK7/FS	15	X15/X16/X17
SCM-25x30x2	25x30x2	Si/BK7/FS	20	X14
SCM-24x37x4	24x37x4	Si/BK7/FS	15	X13
SCM-24x37x2.5	24x37x2.5	Si/BK7	25	X24
SCM-24.8x39.4x3.2	24.8x39.4x3.2	Si/BK7/FS	15	Y12
SCM-23x34x2	23x34x2	Si/BK7/FS	15	Y10
SCM-23x30x2	23x30x2	Si/BK7/FS	15	Y11
SCM-22.1x28.8x3.2	22.1x28.8x3.2	Si/BK7/FS	15	X12
SCM-21x30x2	21x30x2	Si/BK7/FS	15	Y18
SCM-21.3x38.9x3.2	21.3x38.9x3.2	Si/BK7/FS	12	Y9
SCM-17.2x22.5x1.2	17.2x22.5x1.2	Si/BK7/FS	12	X8

Protective Window

Windows are applied to isolate different physical environments while allowing light to pass through. When selecting windows, please consider the material, transmission, scattering, wave front distortion, parallelism and resistance to certain environment. We offer all kinds of windows, which are made from different materials.



Ge window

Part No.	Material	Diameter (mm)	Thickness (mm)	Wavelength(nm)
WGE-70-3	Ge	70.0	3.0	10600
WGE-75-2.5	Ge	75.0	2.5	10600

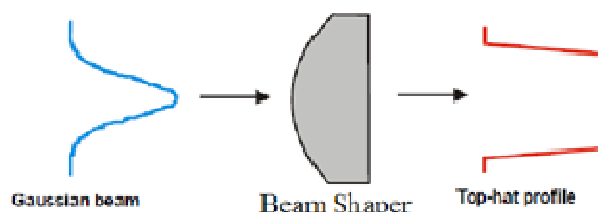
Protection Window for 9.4/10.6 um			
Model No.	Material	?(mm/inch)	Thk. (mm)
WGE-75-2.5	Ge	75	2.5
WGE-90-2.5	Ge	90	2.5
WZ-0.5-2	ZnSe	0.5?/td>	2.0
WZ-0.75-3	ZnSe	0.75?/td>	3.0
WZ-1-3	ZnSe	1.0?/td>	3.0
WZ-1.1-3	ZnSe	1.1?/td>	3.0
WZ-1.5-3	ZnSe	1.5?/td>	3.0
WZ-1.5-5	ZnSe	1.5?/td>	5.0
WGA-60-1	GaAs	60	1.0
WGA-109.5-4	GaAs	109.5	4.0

Protection Window for 1064/532 nm			
Model No.	Material	?(mm/inch)	Thk. (mm)
WFS-1-3	Fused Silicon	1?/td>	3
WFS-1.5-5	Fused Silicon	1.5?/td>	5
WFS-15-2	Fused Silicon	15	2
WFS-18-3	Fused Silicon	18	3
WFS-20-2	Fused Silicon	20	2
WFS-36-2	Fused Silicon	36	2

Beam Shaper

Beam shaping is used in a number of sectors of scientific, engineering, and industrial research and development and has become an important component of laser-based applications such as:

- lithography
- materials processing
- isotope separation
- medical applications
- laser printing
- optical data storage
- laboratory research
- Optical character recognition (OCR)
- Night vision
- Bio-detection
- Flow cytometry
- Micromachining



Beam Shaper with shorter working distance up to 200mm

Part No.	Wavelength	Applicable Input Beam Size (mm)	Output Beam Size (mm)	Max. outer Dia (mm)	Total Length (mm)	Working Distance (mm)
BS	1064/532/355/266	4.6-5	6	27	170.7	25-200

BS-W600 Series Beam Shaper

BS-W600 series of beam shaper is developed for longer working distance up to 600mm

Part No.	Wavelength	Applicable Input Beam Size (mm)	Output Beam Size (mm)	Max. outer Dia (mm)	Total Length (mm)	Working Distance (mm)
BS- W600	1064/532/355	5.8-6	5-5.5	30	175.53	100-600

BS-10.6

Part No.	Wavelength	Applicable Input Beam Size (mm)	Output Beam Size (mm)	Max. outer Dia (mm)	Total Length (mm)	Working Distance (mm)
BS-10.6-3	9.4/10.6/11	3-4	3-4	28	109	25-100
BS-10.6-12	9.4/10.6/11	12	12	38	270	25-200

High Power CO2 Laser Optics



Part No.	Type	Diameter (mm)	FL(inch)	Dia ET(mm)
LZM-1-5-ET2.5	Meniscus	25.4	5.0	2.5
LZM-1.1-1.5-ET5	Meniscus	27.9	1.5	5.0
LZM-1.1-2.5-ET2.3	Meniscus	27.9	2.5	2.3
LZM-1.1-7.5-ET6	Meniscus	27.9	7.5	6.0
LZM-1.1-10-ET2.9	Meniscus	27.9	10.0	2.9
LZM-1.5-2.5-ET3	Meniscus	38.1	2.5	3.0
LZM-1.5-2.5-ET6	Meniscus	38.1	2.5	6.0
LZM-1.5-7.5-ET7.4	Meniscus	38.1	7.5	7.4
LZM-1.5-7.5-ET7.9	Meniscus	38.1	7.5	7.9
LZM-1.5-7.5-ET9	Meniscus	38.1	7.5	9.0
LZM-1.5-7.5-ET10	Meniscus	38.1	7.5	10.0
LZM-1.5-8.85-ET7.4	Meniscus	38.1	8.8	7.4
LZM-1.5-10-ET7.36	Meniscus	38.1	10.0	7.4
LZM-1.5-10-ET9	Meniscus	38.1	10.0	9.0
LZM-2-3.75-ET9.6	Meniscus	50.8	3.7	9.6
LZM-2-5-ET7.8	Meniscus	50.8	5.0	7.8
LZM-2-5-ET8	Meniscus	50.8	5.0	8.0
LZM-2-5-ET9.6	Meniscus	50.8	5.0	9.6
LZM-2-5-ET11	Meniscus	50.8	5.0	11.0
LZM-2-7.5-ET3.5	Meniscus	50.8	7.5	3.5
LZM-2-7.5-ET8	Meniscus	50.8	7.5	8.0
LZM-2-7.5-ET9.6	Meniscus	50.8	7.5	9.6
LZM-2-10-ET9.6	Meniscus	50.8	10.0	9.6
LZM-2-12.5-ET9.65	Meniscus	50.8	12.5	9.7
LZM-2.5-7.5-ET11	Meniscus	63.5	7.5	11.0
LZ-1-1.5-ET3	PO/CX	25.4	1.5	3.0
LZ-1-2-ET3	PO/CX	25.4	2.0	3.0
LZ-1.1-5-ET3	PO/CX	27.9	5.0	3.0
LZ-1.1-5-ET4	PO/CX	27.9	5.0	4.0
LZ-1.1-5-ET6	PO/CX	27.9	5.0	5.0
LZ-1.1-7.5-ET4	PO/CX	27.9	7.5	4.0
LZ-1.1-7.5-ET6	PO/CX	27.9	7.5	6.0
LZ-1.5-2.5-ET7.4	PO/CX	38.1	2.5	7.4
LZ-1.5-3.5-ET3	PO/CX	38.1	3.5	3.0
LZ-1.5-3.63-ET7.2	PO/CX	38.1	3.6	7.2
LZ-1.5-3.75-ET3	PO/CX	38.1	3.7	3.0
LZ-1.5-5-ET7.6	PO/CX	38.1	5.0	7.6
LZ-1.5-5-ET7.8	PO/CX	38.1	5.0	7.8
LZ-1.5-5-ET8	PO/CX	38.1	5.0	8.0
LZ-1.5-5.13-ET7.1	PO/CX	38.1	5.1	7.1
LZ-1.5-7.5-ET2.5	PO/CX	38.1	7.5	2.5
LZ-1.5-7.5-ET4	PO/CX	38.1	7.5	4.0
LZ-1.5-7.5-ET6	PO/CX	38.1	7.5	6.0
LZ-1.5-7.5-ET7.4	PO/CX	38.1	7.5	7.4
LZ-1.5-7.5-ET7.6	PO/CX	38.1	7.5	7.6
LZ-1.5-7.5-ET7.8	PO/CX	38.1	7.5	7.8
LZ-1.5-7.5-ET8	PO/CX	38.1	7.5	8.0
LZ-1.5-7.63-ET8	PO/CX	38.1	7.6	8.0
LZ-1.5-15-ET8	PO/CX	38.1	15.0	8.0
LZ-2-5-ET7.9	PO/CX	50.8	5.0	7.9



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