

Fused Silica Biconvex Lenses

- Symmetrically convex positive lenses
- Focal lengths from 10 to 300mm
- Diameters from 5 to 50.8mm
- Complete range of optional Anti-Reflection coatings available



Symmetrical biconvex lenses are most useful when dealing with finite conjugate points. This makes them ideal for 1:1 imaging applications or for use in multi-element systems.

Specifications & Tolerances

Focal length: $\pm 1\%$ (Diameter $\geq 10\text{mm}$)
 $\pm 2\%$ (Diameter $< 10\text{mm}$)

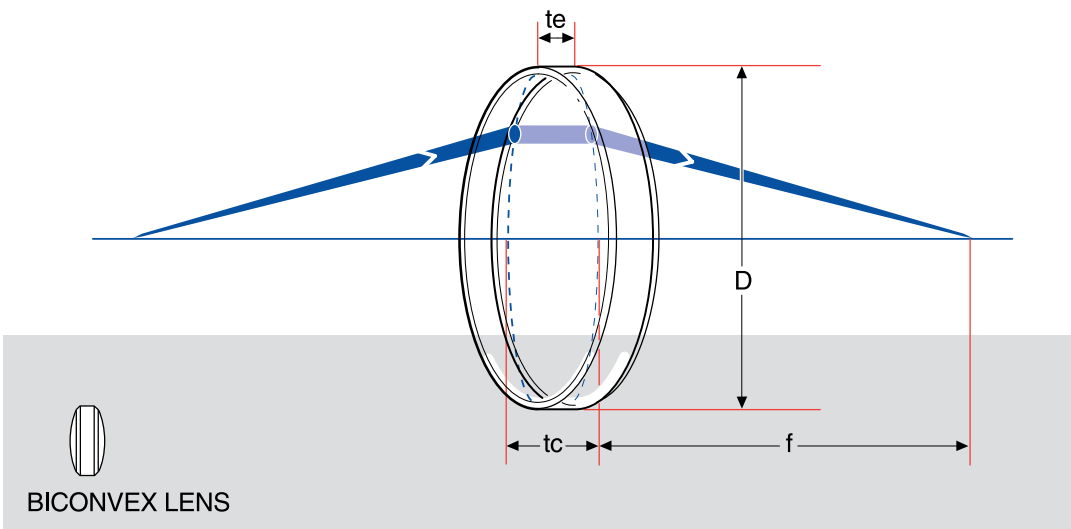
Thickness: $\pm 0.15\text{mm}$

Material: Synthetic fused silica

Diameter: $+0, -0.1\text{mm}$

Clear aperture: $>90\%$

Coating: Optional (see pages 18 and 19)



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D (mm)	f (mm)	tc (mm)	te (mm)	fb (mm)	r (mm)	Centration (arcmin)	Surface Quality	Price	PART NUMBER
5.0	6.5	2.8	1.6	5.5	5.52	≤ 3	40 - 20		014-2100
5.0	8.4	2.3	1.4	7.6	7.36	≤ 3	40 - 20		014-2102
5.0	10.4	2.0	1.3	9.6	9.20	≤ 3	40 - 20		014-2104
5.0	12.3	1.8	1.3	11.7	11.04	≤ 3	40 - 20		014-2106
5.0	15.3	1.7	1.2	14.7	13.80	≤ 3	40 - 20		014-2108
5.0	20.3	1.5	1.2	19.7	18.40	≤ 3	40 - 20		014-2110
5.0	25.2	1.4	1.1	24.8	23.00	≤ 3	40 - 20		014-2112
5.0	30.2	1.3	1.1	29.8	27.60	≤ 3	40 - 20		014-2114
6.0	6.5	2.8	1.0	5.5	5.52	≤ 3	40 - 20		014-2120
6.0	8.4	2.3	1.0	7.6	7.36	≤ 3	40 - 20		014-2122

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	D (mm)	f (mm)	tc (mm)	te (mm)	fb (mm)	r (mm)	Centration (arcmin)	Surface Quality	Price	PART NUMBER
	6.0	10.4	2.0	1.0	9.6	9.20	≤ 3	40 - 20		014-2124
	6.0	12.3	1.8	1.0	11.7	11.04	≤ 3	40 - 20		014-2126
	6.0	15.3	1.7	1.0	14.7	13.80	≤ 3	40 - 20		014-2128
	6.0	20.3	1.5	1.0	19.7	18.40	≤ 3	40 - 20		014-2130
	6.0	25.2	1.4	1.0	24.8	23.00	≤ 3	40 - 20		014-2132
	6.0	30.2	1.3	1.0	29.8	27.60	≤ 3	40 - 20		014-2134
	7.0	8.7	3.9	2.1	7.3	7.36	≤ 3	40 - 20		014-2140
	7.0	10.6	3.3	1.9	9.4	9.20	≤ 3	40 - 20		014-2142
	7.0	12.5	3.0	1.9	11.5	11.04	≤ 3	40 - 20		014-2144
	7.0	15.5	2.7	1.8	14.5	13.80	≤ 3	40 - 20		014-2146
	7.0	20.4	2.4	1.7	19.6	18.40	≤ 3	40 - 20		014-2148
	7.0	25.4	2.2	1.7	24.6	23.00	≤ 3	40 - 20		014-2150
	7.0	30.4	2.1	1.6	29.6	27.60	≤ 3	40 - 20		014-2152
	7.0	40.3	1.9	1.6	39.7	36.80	≤ 3	40 - 20		014-2154
	7.0	50.3	1.8	1.6	49.7	46.00	≤ 3	40 - 20		014-2156
	8.0	8.7	3.9	1.5	7.3	7.36	≤ 3	40 - 20		014-2170
	8.0	10.6	3.3	1.5	9.4	9.20	≤ 3	40 - 20		014-2172
	8.0	12.5	3.0	1.5	11.5	11.04	≤ 3	40 - 20		014-2174
	8.0	15.5	2.7	1.5	14.5	13.80	≤ 3	40 - 20		014-2176
	8.0	20.4	2.4	1.5	19.6	18.40	≤ 3	40 - 20		014-2178
	8.0	25.4	2.2	1.5	24.6	23.00	≤ 3	40 - 20		014-2180
	8.0	30.4	2.1	1.5	29.6	27.60	≤ 3	40 - 20		014-2182
	8.0	40.3	1.9	1.5	39.7	36.80	≤ 3	40 - 20		014-2184
	8.0	50.3	1.8	1.5	49.7	46.00	≤ 3	40 - 20		014-2186
	10.0	10.9	5.0	2.0	9.1	9.20	≤ 1	20 - 10		014-2260
	10.0	15.7	3.9	2.0	14.3	13.80	≤ 1	20 - 10		014-2270
	10.0	20.6	3.4	2.0	19.4	18.40	≤ 1	20 - 10		014-2280
	10.0	25.5	3.1	2.0	24.5	23.00	≤ 1	20 - 10		014-2290
	10.0	30.5	2.9	2.0	29.5	27.60	≤ 1	20 - 10		014-2310
	10.0	40.5	2.7	2.0	39.5	36.80	≤ 1	20 - 10		014-2315
	10.0	50.4	2.5	2.0	49.6	46.00	≤ 1	20 - 10		014-2320
	10.0	60.4	2.5	2.0	59.6	55.20	≤ 1	20 - 10		014-2325
	10.0	70.4	2.4	2.0	69.6	64.40	≤ 1	20 - 10		014-2330
	10.0	80.4	2.3	2.0	79.6	73.60	≤ 1	20 - 10		014-2335
	10.0	90.4	2.3	2.0	89.6	82.80	≤ 1	20 - 10		014-2340
	10.0	100.4	2.3	2.0	99.6	92.00	≤ 1	20 - 10		014-2345
	15.0	16.2	6.4	2.0	13.8	13.80	≤ 1	20 - 10		014-2380
	15.0	20.9	5.2	2.0	19.1	18.40	≤ 1	20 - 10		014-2440
	15.0	25.8	4.5	2.0	24.2	23.00	≤ 1	20 - 10		014-2445
	15.0	30.7	4.1	2.0	29.3	27.60	≤ 1	20 - 10		014-2446
	15.0	40.6	3.5	2.0	39.4	36.80	≤ 1	20 - 10		014-2447
	15.0	50.6	3.2	2.0	49.4	46.00	≤ 1	20 - 10		014-2448
	15.0	60.5	3.0	2.0	59.5	55.20	≤ 1	20 - 10		014-2382
	15.0	70.5	2.9	2.0	69.5	64.40	≤ 1	20 - 10		014-2384
	15.0	80.5	2.8	2.0	79.5	73.60	≤ 1	20 - 10		014-2386
	15.0	90.5	2.7	2.0	89.5	82.80	≤ 1	20 - 10		014-2388
	15.0	100.5	2.6	2.0	99.6	92.00	≤ 1	20 - 10		014-2390
	20.0	21.5	7.9	2.0	18.5	18.40	≤ 1	20 - 10		014-2450
	20.0	26.2	6.6	2.0	23.8	23.00	≤ 1	20 - 10		014-2460
	20.0	31.0	5.8	2.0	29.0	27.60	≤ 1	20 - 10		014-2470
	20.0	40.8	4.8	2.0	39.2	36.80	≤ 1	20 - 10		014-2480
	20.0	50.7	4.2	2.0	49.3	46.00	≤ 1	20 - 10		014-2490
	20.0	60.7	3.8	2.0	59.3	55.20	≤ 1	20 - 10		014-2495
	20.0	70.6	3.6	2.0	69.4	64.40	≤ 1	20 - 10		014-2500

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20.0	80.6	3.4	2.0	79.4	73.60	≤ 1	20 - 10		014-2505
20.0	90.6	3.2	2.0	89.4	82.80	≤ 1	20 - 10		014-2510
20.0	100.5	3.1	2.0	99.5	92.00	≤ 1	20 - 10		014-2515
20.0	120.5	2.9	2.0	119.5	110.40	≤ 1	20 - 10		014-2520
20.0	150.5	2.7	2.0	149.5	138.00	≤ 1	20 - 10		014-2525
25.0	26.7	9.4	2.0	23.3	23.00	≤ 1	20 - 10		014-2550
25.0	31.4	8.0	2.0	28.6	27.60	≤ 1	20 - 10		014-2552
25.0	36.3	7.1	2.0	33.7	32.20	≤ 1	20 - 10		014-2555
25.0	41.1	6.4	2.0	38.9	36.80	≤ 1	20 - 10		014-2557
25.0	51.0	5.5	2.0	49.0	46.00	≤ 1	20 - 10		014-2560
25.0	60.8	4.9	2.0	59.2	55.20	≤ 1	20 - 10		014-2564
25.0	70.8	4.5	2.0	69.2	64.40	≤ 1	20 - 10		014-2568
25.0	80.7	4.1	2.0	79.3	73.60	≤ 1	20 - 10		014-2570
25.0	90.7	3.9	2.0	89.3	82.80	≤ 1	20 - 10		014-2575
25.0	100.6	3.7	2.0	99.4	92.00	≤ 1	20 - 10		014-2580
25.0	120.6	3.4	2.0	119.4	110.40	≤ 1	20 - 10		014-2585
25.0	150.5	3.1	2.0	149.5	138.00	≤ 1	20 - 10		014-2590
25.0	170.5	3.0	2.0	169.5	156.40	≤ 1	20 - 10		014-2595
25.0	200.5	2.9	2.0	119.5	184.00	≤ 1	20 - 10		014-2660
25.4	26.7	9.4	1.8	23.3	23.00	≤ 1	20 - 10		014-2790
25.4	31.4	8.0	1.8	28.5	27.60	≤ 1	20 - 10		014-2810
25.4	36.3	7.1	1.9	33.8	32.20	≤ 1	20 - 10		014-2820
25.4	41.1	6.4	1.9	38.8	36.80	≤ 1	20 - 10		014-2830
25.4	51.0	5.5	1.9	49.1	46.00	≤ 1	20 - 10		014-2880
25.4	60.9	4.9	1.9	59.0	55.20	≤ 1	20 - 10		014-2885
25.4	70.8	4.4	1.9	69.1	64.40	≤ 1	20 - 10		014-2890
25.4	80.7	4.1	1.9	79.1	73.60	≤ 1	20 - 10		014-2895
25.4	90.7	3.9	1.9	89.2	82.80	≤ 1	20 - 10		014-2900
25.4	100.6	3.7	1.9	99.2	92.00	≤ 1	20 - 10		014-2905
25.4	150.5	3.1	1.9	149.3	138.00	≤ 1	20 - 10		014-2915
25.4	200.5	2.9	2.0	199.4	184.00	≤ 1	20 - 10		014-2925
30.0	32.0	10.9	2.0	28.0	27.60	≤ 1	20 - 10		014-3390
30.0	36.7	9.4	2.0	33.3	32.20	≤ 1	20 - 10		014-3440
30.0	41.5	8.4	2.0	38.5	36.80	≤ 1	20 - 10		014-3445
30.0	51.2	7.0	2.0	48.8	46.00	≤ 1	20 - 10		014-3450
30.0	61.1	6.2	2.0	58.9	55.20	≤ 1	20 - 10		014-3452
30.0	71.0	5.5	2.0	69.0	64.40	≤ 1	20 - 10		014-3455
30.0	80.9	5.1	2.0	79.1	73.60	≤ 1	20 - 10		014-3457
30.0	90.8	4.7	2.0	89.2	82.80	≤ 1	20 - 10		014-3458
30.0	100.8	4.5	2.0	99.2	92.00	≤ 1	20 - 10		014-3460
30.0	120.7	4.0	2.0	119.3	110.40	≤ 1	20 - 10		014-3465
30.0	150.6	3.6	2.0	149.4	138.00	≤ 1	20 - 10		014-3470
30.0	170.6	3.4	2.0	169.4	156.40	≤ 1	20 - 10		014-3475
30.0	200.6	3.2	2.0	199.4	184.00	≤ 1	20 - 10		014-3480
30.0	220.5	3.1	2.0	219.5	202.40	≤ 1	20 - 10		014-3477
30.0	250.5	3.0	2.0	249.5	230.00	≤ 1	20 - 10		014-3478
40.0	42.5	13.8	2.0	37.5	36.80	≤ 1	20 - 10		014-3482
40.0	52.0	11.2	2.0	48.0	46.00	≤ 1	20 - 10		014-3483
40.0	61.7	9.5	2.0	58.3	55.20	≤ 1	20 - 10		014-3484
40.0	71.5	8.4	2.0	68.5	64.40	≤ 1	20 - 10		014-3485
40.0	81.3	7.5	2.0	78.7	73.60	≤ 1	20 - 10		014-3486
40.0	91.2	6.9	2.0	88.8	82.80	≤ 1	20 - 10		014-3905
40.0	101.1	6.4	2.0	98.9	92.00	≤ 1	20 - 10		014-3487
40.0	121.0	5.7	2.0	119.0	110.40	≤ 1	20 - 10		014-3910

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D (mm)	f (mm)	tc (mm)	te (mm)	fb (mm)	r (mm)	Centration (arcmin)	Surface Quality	Price	PART NUMBER
40.0	150.8	4.9	2.0	149.2	138.00	≤ 1	20 - 10		014-3912
40.0	170.8	4.6	2.0	169.2	156.40	≤ 1	20 - 10		014-3914
40.0	200.7	4.2	2.0	199.3	184.00	≤ 1	20 - 10		014-3916
40.0	220.7	4.0	2.0	219.3	202.40	≤ 1	20 - 10		014-3918
40.0	250.6	3.7	2.0	249.4	230.00	≤ 1	20 - 10		014-3920
50.0	53.2	17.8	3.0	46.8	46.00	≤ 1	20 - 10		014-3490
50.0	62.7	15.0	3.0	57.3	55.20	≤ 1	20 - 10		014-3510
50.0	72.3	13.1	3.0	67.7	64.40	≤ 1	20 - 10		014-3520
50.0	82.1	11.8	3.0	77.9	73.60	≤ 1	20 - 10		014-3550
50.0	91.9	10.7	3.0	88.1	82.80	≤ 1	20 - 10		014-3555
50.0	101.7	9.9	3.0	98.3	92.00	≤ 1	20 - 10		014-3560
50.0	121.5	8.7	3.0	118.5	110.40	≤ 1	20 - 10		014-3565
50.0	151.3	7.6	3.0	148.7	138.00	≤ 1	20 - 10		014-3570
50.0	201.1	6.4	3.0	198.9	184.00	≤ 1	20 - 10		014-3580
50.0	221.0	6.1	3.0	219.0	202.40	≤ 1	20 - 10		014-3585
50.0	251.0	5.7	3.0	249.0	230.00	≤ 1	20 - 10		014-3590
50.0	300.9	5.3	3.0	299.1	276.00	≤ 1	20 - 10		014-3660
50.8	53.2	17.8	2.5	46.7	46.00	≤ 1	20 - 10		014-3690
50.8	62.7	15.0	2.6	57.3	55.20	≤ 1	20 - 10		014-3710
50.8	72.3	13.1	2.7	67.7	64.40	≤ 1	20 - 10		014-3720
50.8	82.1	11.8	2.8	78.0	73.60	≤ 1	20 - 10		014-3730
50.8	91.9	10.7	2.7	87.7	82.80	≤ 1	20 - 10		014-3735
50.8	101.7	9.9	2.7	98.3	92.00	≤ 1	20 - 10		014-3780
50.8	121.5	8.7	2.8	118.5	110.40	≤ 1	20 - 10		014-3790
50.8	151.3	7.6	2.9	148.7	138.00	≤ 1	20 - 10		014-3810
50.8	201.1	6.4	2.9	198.9	184.00	≤ 1	20 - 10		014-3820
50.8	251.0	5.8	3.0	249.0	230.00	≤ 1	20 - 10		014-3830
50.8	300.9	5.3	3.0	298.8	276.00	≤ 1	20 - 10		014-3835



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