

BK-7 Biconcave Lenses

- Symmetrically concave negative lenses
- Focal lengths from -9.7 to -299.5mm
- Diameters from 10.0 to 50.8mm
- Complete range of optional Anti-Reflection coatings available
- For fused silica biconcave lenses see pages 66-68
- For additional sizes see Micro Optics



These biconcave lenses are used when a very high negative power is required. They can be used in a multi-element system or alone to produce a diverging cone or a virtual image. Sharp edges, which are common in negative lenses, are removed by beveling to reduce the likelihood of chipping.

BK7 lenses are offered uncoated or with our A55 broadband visible (425-675nm) Anti-Reflection coating. In addition, a wide range of standard Anti-Reflection coatings for other wavelengths are available for these lenses.

These coatings are described on pages 18 and 19.

Specifications & Tolerances

Focal length: $\pm 1\%$

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

Surface quality: 20-10

Material: BK7, grade A

Design wavelength: 546.1nm

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

Centration: $\leq 1\text{arcmin}$

Clear aperture: $>90\%$

Coating: Optional broadband Anti-Reflection 425-675nm



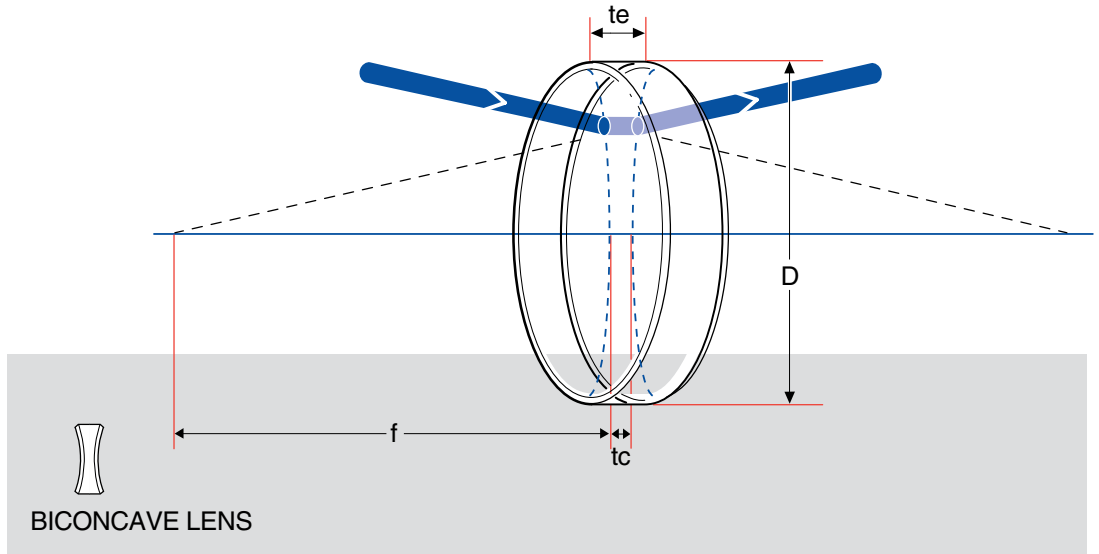
Most of our lenses are available from stock and can be shipped to you the same day that your order is placed.

These biconcave lenses are suited to a wide variety of general applications including diverging a collimated laser beam, spreading a beam for detector coverage, and forming virtual images. The sizes listed are standard and we keep most configurations in stock at all times for immediate delivery. If you don't see the exact biconvex lens that you need, please ask.

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BK-7 Biconcave Lenses

UNCOATED

AR COATED
425-675nm

D (mm)	f (mm)	tc (mm)	te (mm)	fb (mm)	r (mm)	Centration (arcmin)	Price	PART NUMBER	Price	PART NUMBER
10.0	-9.7	4.6	2.0	-10.3	10.38	≤ 1		017-0050		017-0050-A55
10.0	-14.7	3.6	2.0	-15.3	15.57	≤ 1		017-0060		017-0060-A55
10.0	-19.7	3.2	2.0	-20.3	20.76	≤ 1		017-0070		017-0070-A55
10.0	-24.7	3.0	2.0	-25.3	25.95	≤ 1		017-0080		017-0080-A55
10.0	-29.7	2.8	2.0	-30.3	31.14	≤ 1		017-0079		017-0079-A55
10.0	-39.7	2.6	2.0	-40.3	41.52	≤ 1		017-0077		017-0077-A55
10.0	-49.7	2.5	2.0	-50.3	51.90	≤ 1		017-0078		017-0078-A55
12.7	-9.7	6.3	2.0	-10.4	10.38	≤ 1		017-0081		017-0081-A55
12.7	-14.7	4.7	2.0	-15.4	15.57	≤ 1		017-0083		017-0083-A55
12.7	-19.7	4.0	2.0	-20.4	20.76	≤ 1		017-0085		017-0085-A55
12.7	-24.7	3.6	2.0	-25.4	25.95	≤ 1		017-0087		017-0087-A55
15.0	-14.7	5.9	2.0	-15.3	15.57	≤ 1		017-0090		017-0090-A55
15.0	-19.7	4.8	2.0	-20.3	20.76	≤ 1		017-0092		017-0092-A55
15.0	-24.7	4.2	2.0	-25.3	25.95	≤ 1		017-0094		017-0094-A55
15.0	-29.7	3.8	2.0	-30.3	31.14	≤ 1		017-0095		017-0095-A55
15.0	-39.7	3.4	2.0	-40.3	41.52	≤ 1		017-0096		017-0096-A55
15.0	-49.7	3.1	2.0	-50.3	51.90	≤ 1		017-0097		017-0097-A55
20.0	-19.7	7.1	2.0	-20.3	20.76	≤ 1		017-0110		017-0110-A55
20.0	-24.7	6.0	2.0	-25.3	25.95	≤ 1		017-0120		017-0120-A55
20.0	-29.7	5.3	2.0	-30.3	31.14	≤ 1		017-0130		017-0130-A55
20.0	-39.7	4.4	2.0	-40.3	41.52	≤ 1		017-0140		017-0140-A55
20.0	-49.7	3.9	2.0	-50.3	51.90	≤ 1		017-0150		017-0150-A55
25.0	-24.7	8.4	2.0	-25.3	25.95	≤ 1		017-0170		017-0170-A55
25.0	-29.7	7.2	2.0	-30.3	31.14	≤ 1		017-0172		017-0172-A55
25.0	-34.7	6.4	2.0	-35.3	36.33	≤ 1		017-0174		017-0174-A55
25.0	-39.7	5.9	2.0	-40.3	41.52	≤ 1		017-0176		017-0176-A55
25.0	-49.7	5.1	2.0	-50.3	51.90	≤ 1		017-0180		017-0180-A55
25.0	-59.7	4.5	2.0	-60.3	62.28	≤ 1		017-0182		017-0182-A55
25.0	-69.7	4.2	2.0	-70.3	72.66	≤ 1		017-0183		017-0183-A55
25.0	-79.7	4.0	2.0	-80.3	83.04	≤ 1		017-0190		017-0190-A55
25.0	-89.7	3.7	2.0	-90.3	93.42	≤ 1		017-0195		017-0195-A55
25.0	-99.7	3.5	2.0	-100.3	103.80	≤ 1		017-0220		017-0220-A55
25.4	-24.7	8.6	2.0	-25.4	25.95	≤ 1		017-0250		017-0250-A55
25.4	-29.7	7.4	2.0	-30.4	31.14	≤ 1		017-0254		017-0254-A55

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BK-7 Biconcave Lenses (continued)

UNCOATED

AR COATED
425-675 nm

D (mm)	f (mm)	tc (mm)	te (mm)	fb (mm)	r (mm)	Centration (arcmin)	Price	PART NUMBER	Price	PART NUMBER
25.4	-39.7	6.0	2.0	-40.4	41.52	≤ 1		017-0258		017-0258-A55
25.4	-49.7	5.2	2.0	-50.4	51.90	≤ 1		017-0260		017-0260-A55
25.4	-59.7	4.6	2.0	-60.4	62.28	≤ 1		017-0264		017-0264-A55
25.4	-69.7	4.2	2.0	-70.4	72.66	≤ 1		017-0266		017-0266-A55
25.4	-79.7	4.0	2.0	-80.4	83.04	≤ 1		017-0270		017-0270-A55
25.4	-89.7	3.7	2.0	-90.4	93.42	≤ 1		017-0275		017-0275-A55
25.4	-99.7	3.6	2.0	-100.4	103.80	≤ 1		017-0280		017-0280-A55
25.4	-149.7	3.0	2.0	-150.4	155.70	≤ 1		017-0290		017-0290-A55
25.4	-199.7	2.8	2.0	-200.4	207.60	≤ 1		017-0300		017-0300-A55
30.0	-29.7	9.7	2.0	-30.3	31.14	≤ 1		017-0340		017-0340-A55
30.0	-34.7	8.5	2.0	-35.3	36.33	≤ 1		017-0345		017-0345-A55
30.0	-49.7	6.4	2.0	-50.3	51.90	≤ 1		017-0350		017-0350-A55
30.0	-59.7	5.7	2.0	-60.3	62.28	≤ 1		017-0352		017-0352-A55
30.0	-69.7	5.1	2.0	-70.3	72.66	≤ 1		017-0355		017-0355-A55
30.0	-79.7	4.7	2.0	-80.3	83.04	≤ 1		017-0360		017-0360-A55
30.0	-89.7	4.4	2.0	-90.3	93.42	≤ 1		017-0365		017-0365-A55
30.0	-99.7	4.2	2.0	-100.3	103.80	≤ 1		017-0370		017-0370-A55
40.0	-39.7	12.3	2.0	-40.3	41.52	≤ 1		017-0400		017-0400-A55
40.0	-49.7	10.0	2.0	-50.3	51.90	≤ 1		017-0401		017-0401-A55
40.0	-59.7	8.6	2.0	-60.3	62.28	≤ 1		017-0402		017-0402-A55
40.0	-69.7	7.6	2.0	-70.3	72.66	≤ 1		017-0403		017-0403-A55
40.0	-79.7	6.9	2.0	-80.3	83.04	≤ 1		017-0404		017-0404-A55
40.0	-89.7	6.3	2.0	-90.3	93.42	≤ 1		017-0405		017-0405-A55
40.0	-99.7	5.9	2.0	-100.3	103.80	≤ 1		017-0406		017-0406-A55
50.0	-49.5	15.8	3.0	-50.5	51.90	≤ 1		017-0399		017-0399-A55
50.0	-59.5	13.5	3.0	-60.5	62.28	≤ 1		017-0391		017-0391-A55
50.0	-69.5	11.9	3.0	-70.5	72.66	≤ 1		017-0392		017-0392-A55
50.0	-79.5	10.7	3.0	-80.5	83.04	≤ 1		017-0393		017-0393-A55
50.0	-89.5	9.8	3.0	-90.5	93.42	≤ 1		017-0394		017-0394-A55
50.0	-99.5	9.1	3.0	-100.5	103.80	≤ 1		017-0395		017-0395-A55
50.8	-49.5	16.3	3.0	-50.5	51.90	≤ 1		017-0420		017-0420-A55
50.8	-59.5	13.8	3.0	-60.5	62.28	≤ 1		017-0425		017-0425-A55
50.8	-69.5	12.2	3.0	-70.5	72.66	≤ 1		017-0430		017-0430-A55
50.8	-79.5	11.0	3.0	-80.5	83.04	≤ 1		017-0440		017-0440-A55
50.8	-89.5	10.0	3.0	-90.5	93.42	≤ 1		017-0445		017-0445-A55
50.8	-99.5	9.3	3.0	-100.5	103.80	≤ 1		017-0450		017-0450-A55
50.8	-149.5	7.2	3.0	-150.5	155.70	≤ 1		017-0460		017-0460-A55
50.8	-199.5	6.1	3.0	-200.5	207.60	≤ 1		017-0470		017-0470-A55
50.8	-249.5	5.5	3.0	-250.5	259.50	≤ 1		017-0480		017-0480-A55
50.8	-299.5	5.1	3.0	-300.5	311.40	≤ 1		017-0490		017-0490-A55

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