

BICONVEX LENSES

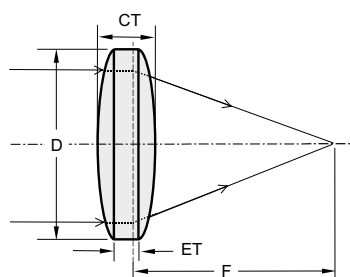
Features

- Have positive focal lengths
- Converge incident light
- Form both real and virtual images
- Minimise spherical aberration as well as cancel coma and distortion at a unit conjugate ratio

Biconvex lenses are all symmetrical, having equal radii on both sides. They are recommended for virtual imaging of real objects and for positive conjugate ratios from 0.2 up to 5. Outside this ratio range plano-convex lenses are usually more suitable. Biconvex lenses are used as magnifiers, objectives, some condensing systems.

Since both surfaces contribute to the power of biconvex lenses, they have shorter focal lengths than plano-convex lenses of equal diameter and surface radius.

Upon customer's request, lenses may be anti-reflection coated. For a required coating please refer to *Coatings Section*.



Specifications

Material	BK7, UV FS	
Surface quality	40 – 20 scratch & dig (MIL-PRF-13830B)	
Clear aperture	90% of the diameter	
Diameter tolerance	+0.00 / -0.12 mm	
Thickness tolerance	±0.5 mm	
Surface irregularity	λ/8 @ 633 nm	
Concentricity	3 arcmin	
Paraxial focal length	BK7	±2% @ 546 nm
	UV FS	±2% @ 355 nm

Please contact us if you can not find the lens that you need. We can provide a wide range of special focal lengths, diameters and coatings.

BK7 BICONVEX LENSES

Focal length F, mm	Diameter D, mm	Centre thickness CT, mm	Edge thickness ET, mm	Radius, mm	Catalogue number	Price, EUR
12.7	12.7	4.8	1.3	12.3	111-0104E	16
25.0	12.7	3.5	1.9	25.3	111-0108E	16
40.0	12.7	2.5	1.5	41.1	111-0114E	16
50.0	12.7	2.5	1.7	51.4	111-0116E	16
60.0	12.7	2.5	1.8	61.8	111-0118E	16
75.0	12.7	2.5	2.0	77.4	111-0120E	15
100.0	12.7	2.0	1.6	103.4	111-0124E	15
125.0	12.7	2.0	1.7	129.3	111-0128E	15
150.0	12.7	2.0	1.7	155.3	111-0132E	15
200.0	12.7	2.0	1.8	207.1	111-0136E	15
250.0	12.7	2.0	1.8	259.0	111-0140E	15
300.0	12.7	2.0	1.9	310.9	111-0144E	15
400.0	12.7	2.0	1.9	414.6	111-0148E	15
500.0	12.7	3.0	2.9	518.2	111-0152E	15
25.0	25.4	9.0	1.8	24.3	111-0204E	21
30.0	25.4	7.5	1.8	29.8	111-0206E	21
40.0	25.4	6.0	1.9	40.4	111-0208E	21
50.0	25.4	6.0	2.8	50.8	111-0210E	19
60.0	25.4	4.0	1.4	61.6	111-0214E	19
75.0	25.4	4.0	1.9	77.1	111-0216E	19
100.0	25.4	4.0	2.4	103.1	111-0218E	17
150.0	25.4	4.0	3.0	154.9	111-0222E	17
200.0	25.4	4.0	3.2	206.8	111-0226E	17
250.0	25.4	4.0	3.4	258.7	111-0228E	17
300.0	25.4	4.0	3.5	310.5	111-0229E	17
500.0	25.4	4.0	3.7	518.0	111-0234E	17
700.0	25.4	4.0	3.8	725.5	111-0240E	17
1000.0	25.4	4.0	3.8	1036.8	111-0250E	17

Focal length F, mm	Diameter D, mm	Centre thickness CT, mm	Edge thickness ET, mm	Radius, mm	Catalogue number	Price, EUR
50.0	38.1	10.5	3.0	50.0	111-0404E	31
100.0	38.1	6.0	2.4	102.7	111-0410E	31
150.0	38.1	5.0	2.6	154.8	111-0414E	31
200.0	38.1	5.0	3.2	206.6	111-0418E	31
250.0	38.1	5.0	3.6	258.5	111-0422E	31
300.0	38.1	5.0	3.8	310.4	111-0426E	31
400.0	38.1	5.0	4.1	414.1	111-0430E	31
500.0	38.1	5.0	4.3	517.9	111-0434E	30
700.0	38.1	5.0	4.5	725.4	111-0440E	30
1000.0	38.1	5.0	4.6	1036.6	111-0450E	30
50.0	50.8	15.6	1.4	49.1	111-0504E	51
75.0	50.8	10.0	1.3	76.1	111-0508E	48
100.0	50.8	8.5	2.1	102.3	111-0510E	48
150.0	50.8	6.1	1.9	154.6	111-0512E	47
200.0	50.8	5.0	1.9	206.6	111-0514E	47
300.0	50.8	5.0	2.9	310.4	111-0518E	47
400.0	50.8	5.0	3.4	414.1	111-0522E	47
500.0	50.8	5.0	3.8	517.9	111-0526E	47
750.0	50.8	5.0	4.2	777.2	111-0534E	47
1000.0	50.8	5.0	4.4	1036.6	111-0544E	47
1200.0	50.8	5.0	4.5	1244.1	111-0550E	47
1500.0	50.8	5.0	4.6	1555.3	111-0555E	47

Housing accessories

Self-Centering Lens Mounts 830-0010, 830-0020

Find more at EksmaOptics.com



UV FS BICONVEX LENSES

Focal length F, mm	Diameter D, mm	Centre thickness CT, mm	Edge thickness ET, mm	Radius, mm	Catalogue number	Price, EUR
12.7	12.7	6.0	2.0	11.0	111-1104E	49
25.0	12.7	3.5	1.7	23.2	111-1108E	48
50.0	12.7	3.0	2.1	47.1	111-1114E	48
75.0	12.7	2.5	1.9	70.9	111-1118E	48
100.0	12.7	2.3	1.9	94.7	111-1122E	48
150.0	12.7	2.2	1.9	142.3	111-1126E	48
25.0	25.4	10.0	2.0	22.1	111-1204E	71
40.0	25.4	7.1	2.6	36.9	111-1207E	71
50.0	25.4	6.0	2.5	46.6	111-1210E	71
75.0	25.4	4.0	1.7	70.8	111-1214E	65
100.0	25.4	4.0	2.3	94.6	111-1218E	65
150.0	25.4	3.2	2.1	142.3	111-1222E	65
200.0	25.4	3.0	2.1	189.9	111-1226E	65
250.0	25.4	3.0	2.3	237.6	111-1230E	65
300.0	25.4	3.0	2.4	285.2	111-1234E	60
400.0	25.4	3.0	2.6	380.4	111-1238E	60
500.0	25.4	3.0	2.7	475.6	111-1240E	60
750.0	25.4	3.0	2.8	713.6	111-1250E	60
1000.0	25.4	3.0	2.8	951.7	111-1260E	60

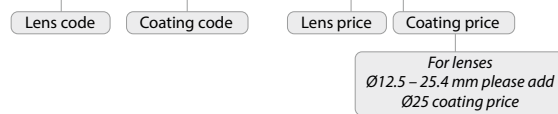
Focal length F, mm	Diameter D, mm	Centre thickness CT, mm	Edge thickness ET, mm	Radius, mm	Catalogue number	Price, EUR
50.0	38.1	11.0	2.7	45.8	111-1404E	116
100.0	38.1	5.4	1.5	94.3	111-1410E	116
150.0	38.1	5.0	2.4	142.0	111-1414E	116
200.0	38.1	5.0	3.1	189.6	111-1418E	116
250.0	38.1	4.0	2.5	237.4	111-1422E	114
300.0	38.1	5.0	3.7	284.8	111-1426E	114
400.0	38.1	5.0	4.0	380.1	111-1430E	114
500.0	38.1	5.0	4.2	475.3	111-1434E	113
700.0	38.1	5.0	4.5	665.7	111-1440E	113
1000.0	38.1	4.7	4.3	951.4	111-1460E	113
50.0	50.8	17.3	1.4	44.6	111-1504E	149
75.0	50.8	11.0	1.4	69.6	111-1508E	148
100.0	50.8	10.0	3.0	93.6	111-1514E	147
150.0	50.8	7.5	2.9	141.6	111-1517E	147
175.0	50.8	6.6	2.7	165.6	111-1520E	147
200.0	50.8	7.0	3.6	189.3	111-1522E	147
250.0	50.8	6.0	3.3	237.1	111-1526E	147
300.0	50.8	6.0	3.7	284.7	111-1530E	146
500.0	50.8	6.0	4.6	474.1	111-1534E	146
1000.0	50.8	6.0	5.3	951.2	111-1550E	146

Ordering of Coated Lenses

Please choose relevant coating from anti-reflection coatings section (pages 1.5 - 1.6). The coating code and price should be added to the lens code and price.

Example:

1) BK7 bi/cx lens Ø12.7 mm, F=400 mm, coated AR/AR@400-700 nm, AOI=0°
Code: **111-0148E** + **ARB550**, Price: 15 + 67 EUR= 82 EUR/pc.



2) BK7 bi/cx lens Ø38.1 mm, F=1000 mm, coated AR/AR@400-700 nm, AOI=0°
Code: **111-0450E** + **ARB550**, Price: 30 + 80 EUR= 110 EUR/pc.

