

Lenses (UV FS, BK7, CaF₂)

PLANO-CONVEX LENSES

Features

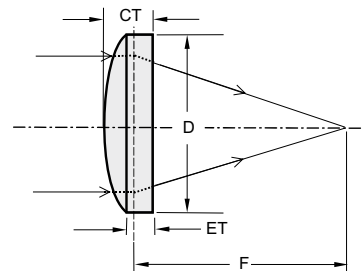
- Positive focal length
- Converge incident light
- Form both real and virtual images
- Very close to the form minimising spherical aberration for infinite conjugate applications

These simplest form lenses have flat surface on one side and spherical surface on the other. They are widely used in telescopes, microscopes, collimators, optical transceivers, magnifiers, condenser systems and eyepieces.

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

Standard lenses have a range of focal lengths – from 25 mm to 10000 mm, and diameters – from 12.7 mm to 50.8 mm.

Most of the Lenses are available for fast off-the-shelf delivery. Check the availability at www.eksmaoptics.com



Specifications

Material	BK7, UV FS, CaF ₂	
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	
Surface irregularity for CaF ₂	λ/4 @ 633 nm	
Concentricity	3 arcmin	
Paraxial focal length	BK7	±2% @ 546 nm
	UV FS	±2% @ 355 nm
	CaF ₂	±2% @ 2940 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 PLANO-CONVEX LENSES

Focal length F, mm	Diameter D, mm	Centre thickness CT, mm	Edge thickness ET, mm	Radius, mm	Catalogue number	Price, EUR
20.0	12.7	4.5	2.3	10.4	110-0104E	15
25.0	12.7	4.0	2.3	13.0	110-0105E	15
30.0	12.7	3.5	2.1	15.6	110-0106E	15
40.0	12.7	3.0	2.0	20.7	110-0107E	15
50.0	12.7	3.0	2.2	25.9	110-0109E	15
60.0	12.7	3.0	2.3	31.1	110-0111E	15
75.0	12.7	3.0	2.5	38.9	110-0115E	15
100.0	12.7	3.0	2.6	51.9	110-0117E	15
150.0	12.7	3.0	2.7	77.8	110-0121E	15
200.0	12.7	3.0	2.8	103.7	110-0123E	15
250.0	12.7	3.0	2.8	129.7	110-0125E	15
300.0	12.7	3.0	2.9	155.6	110-0126E	15
350.0	12.7	3.0	2.9	181.6	110-0127E	15
500.0	12.7	2.1	2.0	259.4	110-0129E	15

Focal length F, mm	Diameter D, mm	Centre thickness CT, mm	Edge thickness ET, mm	Radius, mm	Catalogue number	Price, EUR
1000.0	12.7	2.1	2.1	518.7	110-0135E	15
1500.0	12.7	2.1	2.1	778.1	110-0145E	15
30.0	25.4	8.5	1.9	15.6	110-0205E	25
40.0	25.4	6.1	1.8	20.7	110-0207E	20
50.0	25.4	5.0	1.7	25.9	110-0209E	19
60.0	25.4	4.4	1.7	31.1	110-0211E	19
75.0	25.4	4.0	1.9	38.9	110-0215E	19
90.0	25.4	3.8	2.0	46.7	110-0218E	19
100.0	25.4	3.5	1.9	51.9	110-0219E	19
125.0	25.4	3.2	1.9	64.8	110-0223E	19
150.0	25.4	3.0	2.0	77.8	110-0227E	19
175.0	25.4	3.0	2.1	90.8	110-0229E	18
200.0	25.4	3.0	2.2	103.7	110-0231E	18
250.0	25.4	3.0	2.4	129.7	110-0235E	18

Focal length F, mm	Diameter D, mm	Centre thickness CT, mm	Edge thickness ET, mm	Radius, mm	Catalogue number	Price, EUR
300.0	25.4	3.0	2.5	155.6	110-0239E	18
350.0	25.4	3.0	2.6	181.6	110-0241E	18
400.0	25.4	3.0	2.6	207.5	110-0243E	18
450.0	25.4	3.0	2.7	233.4	110-0245E	18
500.0	25.4	3.0	2.7	259.4	110-0247E	18
550.0	25.4	3.0	2.7	285.3	110-0248E	18
600.0	25.4	3.0	2.7	311.2	110-0249E	18
700.0	25.4	3.0	2.8	363.1	110-0251E	18
800.0	25.4	3.0	2.8	415.0	110-0255E	18
900.0	25.4	3.0	2.8	466.8	110-0257E	18
1000.0	25.4	3.0	2.8	518.7	110-0259E	18
1200.0	25.4	3.0	2.9	622.5	110-0263E	18
1250.0	25.4	3.0	2.9	648.4	110-0264E	18
1300.0	25.4	3.0	2.9	674.3	110-0265E	18
1400.0	25.4	3.0	2.9	726.2	110-0266E	18
1500.0	25.4	3.0	2.9	778.1	110-0267E	18
1600.0	25.4	3.0	2.9	830.0	110-0268E	18
1750.0	25.4	3.0	2.9	907.8	110-0269E	18
1900.0	25.4	3.0	2.9	985.6	110-0270E	18
2000.0	25.4	3.0	2.9	1037.4	110-0271E	18
2500.0	25.4	3.0	2.9	1296.8	110-0275E	18
3000.0	25.4	3.0	2.9	1556.2	110-0281E	18
4000.0	25.4	3.0	3.0	2074.9	110-0285E	18
5000.0	25.4	3.0	3.0	2593.6	110-0289E	18
10000.0	25.4	3.0	3.0	5187.2	110-0295E	18
50.0	38.1	12.0	3.7	25.9	110-0405E	37
63.5	38.1	8.0	1.9	32.9	110-0406E	32
75.0	38.1	7.3	2.3	38.9	110-0407E	32
100.0	38.1	6.5	2.9	51.9	110-0409E	29
150.0	38.1	5.1	2.7	77.8	110-0411E	29
200.0	38.1	4.3	2.5	103.7	110-0415E	29
250.0	38.1	4.0	2.6	129.7	110-0417E	29
300.0	38.1	4.0	2.8	155.6	110-0419E	29
350.0	38.1	4.0	3.0	181.6	110-0421E	29

Focal length F, mm	Diameter D, mm	Centre thickness CT, mm	Edge thickness ET, mm	Radius, mm	Catalogue number	Price, EUR
400.0	38.1	4.0	3.1	207.5	110-0423E	29
500.0	38.1	4.0	3.3	259.4	110-0427E	29
700.0	38.1	4.0	3.5	363.1	110-0435E	28
1000.0	38.1	4.0	3.7	518.7	110-0445E	28
2500.0	38.1	4.0	3.8	1296.8	110-0450E	28
5000.0	38.1	4.0	3.9	2593.6	110-0455E	28
75.0	50.8	12.3	2.9	38.9	110-0502E	55
100.0	50.8	10.4	3.8	51.9	110-0505E	49
150.0	50.8	7.2	2.9	77.8	110-0507E	46
200.0	50.8	6.1	2.9	103.7	110-0509E	45
250.0	50.8	5.4	2.9	129.7	110-0511E	45
300.0	50.8	5.0	2.9	155.6	110-0515E	45
350.0	50.8	4.7	2.9	181.6	110-0519E	45
400.0	50.8	5.5	3.9	207.5	110-0523E	45
500.0	50.8	5.2	4.0	259.4	110-0525E	45
600.0	50.8	5.0	4.0	311.2	110-0527E	45
650.0	50.8	5.0	4.0	337.2	110-0528E	45
700.0	50.8	5.0	4.1	363.1	110-0529E	45
800.0	50.8	5.0	4.2	415.0	110-0531E	45
1000.0	50.8	5.0	4.4	518.7	110-0535E	45
1500.0	50.8	5.0	4.6	778.1	110-0540E	45
2000.0	50.8	5.0	4.7	1037.4	110-0545E	45
5000.0	50.8	5.0	4.9	2593.6	110-0555E	45
10000.0	50.8	5.0	4.9	5187.2	110-0565E	45
250.0	76.2	12.7	7.0	129.7	110-0711E	120
300.0	76.2	11.7	7.0	155.6	110-0715E	120
400.0	76.2	10.5	7.0	207.5	110-0723E	120
500.0	76.2	9.8	7.0	259.4	110-0725E	120
750.0	76.2	8.9	7.0	389.0	110-0730E	120
1000.0	76.2	8.4	7.0	518.7	110-0735E	120
1500.0	76.2	7.9	7.0	778.1	110-0740E	120
2000.0	76.2	7.7	7.0	1037.4	110-0745E	120
3000.0	76.2	7.5	7.0	1556.2	110-0748E	120

UV FS PLANO-CONVEX LENSES

Focal length F, mm	Diameter D, mm	Centre thickness CT, mm	Edge thickness ET, mm	Radius, mm	Catalogue number	Price, EUR
25.0	12.7	4.0	2.2	11.9	110-1105E	48
30.0	12.7	3.7	2.2	14.3	110-1106E	48
40.0	12.7	2.5	1.1	19.0	110-1108E	48
50.0	12.7	3.0	2.1	23.8	110-1109E	48
75.0	12.7	3.0	2.4	35.7	110-1111E	48
80.0	12.7	3.5	2.5	38.0	110-1112E	48
90.0	12.7	3.5	3.0	42.8	110-1114E	48
100.0	12.7	3.0	2.6	47.6	110-1115E	48
125.0	12.7	3.0	2.7	59.4	110-1117E	47
150.0	12.7	3.0	2.7	71.3	110-1119E	47
175.0	12.7	3.0	2.8	83.2	110-1121E	47
200.0	12.7	3.0	2.8	95.1	110-1123E	47
250.0	12.7	3.0	2.8	118.9	110-1127E	47
300.0	12.7	3.0	2.9	142.7	110-1129E	47
350.0	12.7	3.0	2.9	166.4	110-1131E	47
400.0	12.7	3.0	2.9	190.2	110-1133E	47
750.0	12.7	3.0	2.9	357.1	110-1141E	47
30.0	25.4	9.75	2.0	14.3	110-1203E	70
40.0	25.4	7.0	2.1	19.0	110-1204E	70
50.0	25.4	6.0	2.3	23.8	110-1205E	70
60.0	25.4	5.0	2.0	28.5	110-1207E	70
75.0	25.4	4.5	2.2	35.7	110-1209E	70
80.0	25.4	4.6	2.4	38.0	110-1210E	70

Focal length F, mm	Diameter D, mm	Centre thickness CT, mm	Edge thickness ET, mm	Radius, mm	Catalogue number	Price, EUR
100.0	25.4	4.0	2.3	47.6	110-1211E	70
125.0	25.4	4.0	2.6	59.4	110-1216E	70
150.0	25.4	4.0	2.9	71.3	110-1217E	65
175.0	25.4	4.0	3.0	83.2	110-1218E	65
200.0	25.4	4.0	3.1	95.1	110-1219E	65
250.0	25.4	4.0	3.3	118.9	110-1221E	65
300.0	25.4	4.0	3.4	142.7	110-1223E	65
350.0	25.4	4.0	3.5	166.4	110-1225E	65
400.0	25.4	4.0	3.6	190.2	110-1227E	60
500.0	25.4	4.0	3.7	237.8	110-1233E	60
550.0	25.4	4.0	3.7	261.5	110-1234E	60
600.0	25.4	4.0	3.7	285.3	110-1235E	60
700.0	25.4	4.0	3.8	332.9	110-1238E	60
750.0	25.4	4.0	3.8	356.6	110-1239E	60
800.0	25.4	4.0	3.8	380.4	110-1240E	60
1000.0	25.4	4.0	3.8	475.5	110-1245E	60
1100.0	25.4	4.0	3.8	523.1	110-1246E	60
1500.0	25.4	4.0	3.9	713.3	110-1255E	60
2000.0	25.4	4.0	3.9	951.0	110-1265E	60
5000.0	25.4	4.0	4.0	2377.5	110-1275E	60
50.0	38.1	13.5	3.9	23.8	110-1405E	113
75.0	38.1	8.6	3.1	35.7	110-1409E	113
100.0	38.1	6.9	2.9	47.6	110-1411E	113

Focal length F, mm	Diameter D, mm	Centre thickness CT, mm	Edge thickness ET, mm	Radius, mm	Catalogue number	Price, EUR
150.0	38.1	5.4	2.8	71.3	110-1415E	113
200.0	38.1	4.0	2.1	95.1	110-1419E	113
250.0	38.1	4.0	2.5	118.9	110-1423E	113
300.0	38.1	4.0	2.7	142.7	110-1427E	111
350.0	38.1	4.0	3.0	181.6	110-1421E	111
400.0	38.1	4.0	3.0	190.2	110-1431E	111
500.0	38.1	4.0	3.2	237.8	110-1435E	111
600.0	38.1	4.0	3.4	285.3	110-1439E	111
1000.0	38.1	4.0	3.6	475.5	110-1445E	111
1500.0	38.1	4.0	3.7	713.3	110-1455E	111
2500.0	38.1	4.0	3.8	1296.8	110-1450E	111
3000.0	38.1	4.0	3.9	1426.5	110-1465E	111
5000.0	38.1	4.0	3.9	2377.5	110-1475E	111
75.0	50.8	12.2	1.6	35.7	110-1505E	141
100.0	50.8	9.6	2.2	47.6	110-1509E	138
150.0	50.8	6.5	1.8	71.3	110-1511E	138
200.0	50.8	6.0	2.5	95.1	110-1515E	138
250.0	50.8	6.0	3.3	118.9	110-1517E	138
300.0	50.8	6.0	3.7	142.7	110-1519E	138
350.0	50.8	6.0	4.1	166.6	110-1521E	138
400.0	50.8	6.0	4.3	190.2	110-1523E	138
500.0	50.8	6.0	4.6	237.8	110-1527E	138
600.0	50.8	6.0	4.9	285.3	110-1531E	138
700.0	50.8	6.0	5.0	332.9	110-1533E	138
800.0	50.8	6.0	5.2	380.4	110-1535E	138
900.0	50.8	6.0	5.2	428.5	110-1540E	138
1000.0	50.8	6.0	5.3	475.5	110-1545E	138
1500.0	50.8	6.0	5.5	713.3	110-1550E	138
2000.0	50.8	6.0	5.7	951.0	110-1555E	138

CaF₂ PLANO-CONVEX LENSES

Focal length F, mm	Diameter D, mm	Centre thickness CT, mm	Edge thickness ET, mm	Radius, mm	Catalogue number	Price, EUR
25.0	12.7	4.1	2.0	10.5	110-5105E	70
50.0	12.7	3.0	2.0	20.9	110-5109E	70
75.0	12.7	2.6	2.0	31.4	110-5111E	70
100.0	12.7	2.5	2.0	41.8	110-5115E	70
150.0	12.7	2.3	2.0	62.7	110-5119E	70
200.0	12.7	2.2	2.0	83.6	110-5123E	70
250.0	12.7	2.2	2.0	104.6	110-5127E	70
500.0	12.7	2.1	2.0	209.1	110-5135E	70
1000.0	12.7	3.0	3.0	418.2	110-5145E	70
40.0	25.4	7.9	2.1	16.7	110-5204E	75
50.0	25.4	7.3	3.0	20.9	110-5205E	75
75.0	25.4	5.7	3.0	31.4	110-5209E	75
100.0	25.4	5.0	3.0	41.8	110-5211E	75
125.0	25.4	5.0	3.4	52.3	110-5213E	75
150.0	25.4	4.3	3.0	62.7	110-5217E	75
200.0	25.4	4.0	3.0	83.6	110-5219E	75
250.0	25.4	3.8	3.0	104.6	110-5221E	75
300.0	25.4	3.7	3.1	125.5	110-5222E	75
400.0	25.4	3.5	3.0	167.3	110-5228E	75
500.0	25.4	3.4	3.0	209.1	110-5223E	75
650.0	25.4	3.3	3.0	271.8	110-5229E	75
750.0	25.4	3.0	2.7	313.7	110-5225E	75
1000.0	25.4	3.2	3.0	418.2	110-5227E	75
1500.0	25.4	3.2	3.1	627.3	110-5235E	75

Focal length F, mm	Diameter D, mm	Centre thickness CT, mm	Edge thickness ET, mm	Radius, mm	Catalogue number	Price, EUR
2500.0	50.8	6.0	5.7	1188.8	110-1565E	138
3000.0	50.8	6.0	5.8	1426.5	110-1564E	138
4000.0	50.8	6.0	5.8	1902.0	110-1566E	138
5000.0	50.8	5.0	4.9	2377.5	110-1567E	138
250.0	76.2	9.0	2.7	118.9	110-1717E	350
300.0	76.2	8.0	2.8	142.7	110-1719E	350
500.0	76.2	7.0	3.9	237.8	110-1727E	350
1000.0	76.2	6.0	4.5	475.5	110-1745E	350
1500.0	76.2	6.0	5.0	713.3	110-1750E	350
2000.0	76.2	6.0	5.2	951.0	110-1755E	350

We can supply custom cutting, edging, coating or complete fabrication if required.

Ordering of Coated Lenses

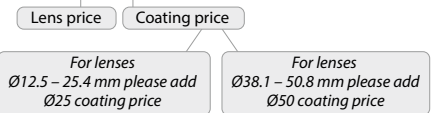
Please choose relevant coating from anti-reflection coatings section (pages 1.5 - 1.6). The coating code and price should be added to the lens code and price.

Example:

BK7 pl/cx lens Ø12.7 mm, F=1500 mm, coated AR/AR@400-700 nm, AOI=0°
Code: **110-0145E + ARB550**,



Price: 15 + 67 EUR= 82 EUR/pc.



Focal length F, mm	Diameter D, mm	Centre thickness CT, mm	Edge thickness ET, mm	Radius, mm	Catalogue number	Price, EUR
2000.0	25.4	3.1	3.0	836.5	110-5240E	75
3000.0	25.4	3.1	3.0	1254.7	110-5245E	75
75.0	50.8	15.9	2.9	31.4	110-5509E	320
100.0	50.8	11.6	3.0	41.8	110-5511E	280
150.0	50.8	8.4	3.0	62.7	110-5517E	260
200.0	50.8	7.0	3.1	83.6	110-5519E	250
250.0	50.8	5.6	2.5	104.6	110-5520E	250
300.0	50.8	5.6	3.0	125.5	110-5522E	250
400.0	50.8	5.6	3.7	167.3	110-5524E	250
500.0	50.8	5.0	3.5	209.1	110-5523E	250
750.0	50.8	5.0	4.0	313.7	110-5528E	250
1000.0	50.8	5.0	4.2	418.2	110-5535E	250
1500.0	50.8	5.0	4.5	627.3	110-5545E	250
1700.0	50.8	5.0	4.5	711.0	110-5550E	250
2000.0	50.8	5.0	4.6	836.5	110-5555E	250

Housing accessories

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

Find more at EksmaOptics.com

