

BICONCAVE LENSES

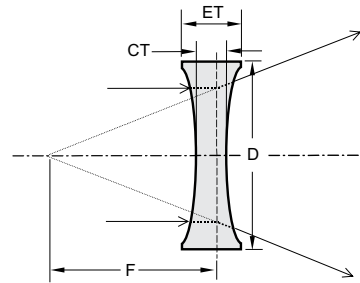
- Have negative focal lengths, diverge collimated incident light
- Form only virtual images which are seen through the lens
- Minimise spherical aberration, coma and distortion at unit conjugate ratio

These lenses are symmetrical, having equal radii on both sides. Biconcave lenses are often used to expand light beams or to increase focal lengths in optical systems, and are normally used in combination with other lenses. Among the many devices utilising biconcave lenses are laser beam expanders, optical character readers, viewers and projection systems.

A variety of anti-reflection coatings is available for these lenses. For appropriate coating, please refer to the Coatings section.



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



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 Biconcave Lenses

Catalogue number BK7	Diameter D, mm		Focal length F, mm	Centre thickness CT, mm	Edge thickness ET, mm	Price, EUR
	Metric	English				
114-0104	12.5	12.7	-12.7	3.2	5.0	15
114-0106	12.5	12.7	-25.0	2.2	3.0	15
114-0108	12.5	12.7	-40.0	2.4	3.0	15
114-0110	12.5	12.7	-50.0	2.6	3.0	15
114-0112	12.5	12.7	-60.0	2.6	3.0	15
114-0114	12.5	12.7	-75.0	2.7	3.0	15
114-0118	12.5	12.7	-100.0	2.8	3.0	15
114-0120	12.5	12.7	-125.0	1.7	2.0	14
114-0124	12.5	12.7	-150.0	1.8	2.0	14
114-0128	12.5	12.7	-200.0	1.8	2.0	14
114-0132	12.5	12.7	-250.0	1.8	2.0	14
114-0204	25.0	25.4	-25.0	4.8	8.3	19
114-0206	25.0	25.4	-40.0	2.7	6.1	19
114-0208	25.0	25.4	-50.0	4.4	6.0	19
114-0210	25.0	25.4	-60.0	2.6	5.0	19
114-0212	25.0	25.4	-75.0	3.7	4.7	18
114-0214	25.0	25.4	-100.0	3.2	4.0	18
114-0218	25.0	25.4	-125.0	3.1	4.0	18
114-0220	25.0	25.4	-150.0	3.0	4.0	18
114-0224	25.0	25.4	-200.0	2.8	3.5	18
114-0228	25.0	25.4	-250.0	2.9	3.5	18
114-0234	25.0	25.4	-400.0	3.2	3.5	18
114-0238	25.0	25.4	-500.0	3.2	3.5	18

HOUSING ACCESSORIES

Variable Lens Holder
830-0040

See page 8.51



Please add letter M to the catalogue number for metric dimensions and letter E for English.

Coated Lenses Ordering Information

Example:

BK7 bi/cv lens Ø12.7 mm, F=-250 mm, coated AR/AR@400-700 nm, AOI=0°

Code: **114-0132 E + 3217-i0,**

Lens code

Coating code

English or Metric Dimensions.
Can be omitted if not important

For lenses Ø38.1 – 50.8 mm
please add Ø50 coating price

Price: 14 + 56 EUR= 70 EUR/pc.

Lens price

Coating price

For lenses Ø12.5 – 25.4 mm
please add Ø25 coating price

UV FS Biconcave Lenses

Catalogue number UV FS	Diameter D, mm		Focal length F, mm	Centre thickness CT, mm	Edge thickness ET, mm	Price, EUR
	Metric	English				
114-1104	12.5	12.7	-12.5	3.7	5.8	49
114-1108	12.5	12.7	-25.0	2.3	3.2	49
114-1110	12.5	12.7	-30.0	1.3	2.5	49
114-1114	12.5	12.7	-50.0	2.6	3.0	49
114-1118	12.5	12.7	-75.0	2.7	3.0	49
114-1122	12.5	12.7	-100.0	2.8	3.0	47
114-1204	25.0	25.4	-25.0	5.3	9.5	71
114-1208	25.0	25.4	-50.0	4.2	6.0	71
114-1212	25.0	25.4	-75.0	3.8	5.0	71
114-1216	25.0	25.4	-100.0	3.6	4.5	71
114-1220	25.0	25.4	-150.0	3.9	4.5	71
114-1224	25.0	25.4	-200.0	3.0	3.9	70

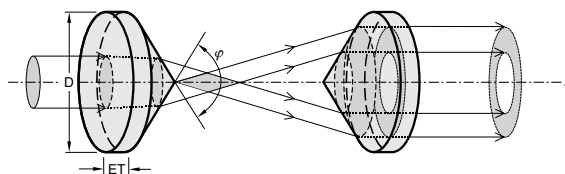
Please add letter M to the catalogue number for metric dimensions and letter E for English.
Please contact us for other size, focus or precision requirements.

CONICAL LENSES (AXICONS)

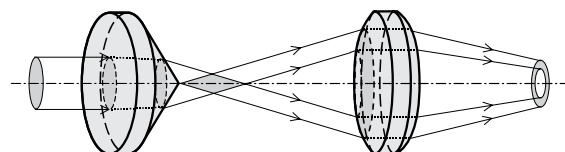
- Can be made from most optical materials

We can supply custom cutting, edging, coating or complete fabrication if required. If you cannot find your axicons needed, please send your specification or drawings for a custom quotation.

Two axicons together produce a thick-walled hollow "pipe" of light.



An axicon with a spherical lens produces an annular focus.



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



SPECIFICATIONS

Material	BK7, UV FS
Surface quality	60-40 scratch & dig (MIL-PRF-13830B)
Clear aperture	90% of the diameter
Diameter tolerance	+0.00 -0.12 mm
Angle tolerance	±0.5°
Surface irregularity	1 λ @ 633 nm

HOUSING ACCESSORIES

Universal Adjustable Lens/Optics Mount
830-0035

See page 8.49



Catalogue number BK7	UV FS	Diameter D, mm	Apex angle φ, deg	Price, EUR BK7 / UV FS
130-0240	130-1240	25.4	140	160 / 283
130-0260	130-1260	25.4	160	160 / 283
130-0265	130-1265	25.4	165	160 / 283
130-0270	130-1270	25.4	170	160 / 283
130-0275	130-1275	25.4	175	160 / 283
130-0278	130-1278	25.4	178	160 / 283
130-0360	130-1360	30.0	160	197 / 350
130-0365	130-1365	30.0	165	197 / 350
130-0370	130-1370	30.0	170	197 / 350

Please contact us for other size or precision requirements.

Coated Lenses Ordering Information

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 axicon Ø30 mm, apex 160°, coated AR/AR@400-700 nm, AOI=0°

Code: 130-0360 + 3217-i0,

Price: 197 + 67 EUR= 264 EUR/pc.

Lens code	Coating code	Lens price	Coating price
For lenses Ø25.4 mm please add Ø25 coating price		For lenses Ø30 mm please add Ø50 coating price	