

## PerfectLens™ Traditional Optics

Archer OpTx provides a full range of traditional optical components with spherical, cylindrical, flat or toroidal surfaces. Components are available in diameters of a few millimeters to support miniature cameras through two hundred millimeters for your large-scale projects. Surface accuracies are standard at  $\lambda/4$  and can be specified to  $\lambda/20$  if your application requires extreme precision.

### Achromats

Achromats are available with aspheric surfaces in the case where combining the color correction function of an achromatic lens with aberration correction function of an aspheric lens are a big advantage to an optical system. Achromats are available in cemented or air-spaced forms where Archer's optical and opto-mechanical engineers can make athermal designs available. Common forms are:

- Cemented Doublet
- Cemented Triplet
- Air-Spaced Doublet (athermal optional)
- Air-Spaced Triplet (athermal optional)

### Sapphire Windows

Precision sapphire windows are available as standard  $\lambda/4$ , uncoated, and anti-reflective coated. Archer OpTx offers sapphire windows manufactured to your requirements. Our standard precision sapphire windows include:

OD	CT
8	0.9
10	1
12	1
12.7	3
15	3
20	3
25.4	3
50.8	3

### Coatings

Archer OpTx offers standard and high-power optical coatings on products according to your specifications. Our coating offerings include:

- Broadband and multiband anti-reflection coatings for Deep UV, VIS, NIR, SWIR, MWIR, LWIR
- High LDT anti-reflection coatings for laser applications
- LWP, SWP, and multiband dichroic coatings
- High LDT dielectric mirrors for laser applications
- Protected Enhanced metal mirrors – high abrasion resistant available
- Hydrophobic/Oleophobic/Abrasion Resistant coating for the most extreme environments

### Singlets

Singlets are available in plano-convex, bi-convex, plano-concave, bi-concave or meniscus forms.

## Cylinders

Cylinders are available with surfaces as accurate as  $\Lambda/10$  and as long as 100mm. The challenge of making these single dimensional light shaping optics has been mastered and customized metrology is in place to ensure accuracy of the entire cylindrical surface.

## Prisms

Prisms with precise angles from less than 3 arcmin to less than 3 arcsec are available in optical glass or UV grade fused silica. Anti-reflective, reflective, black and custom coatings are done per the prism design. Some common prisms are:

- Roof Prism
- Right Angle Prisms
- Cube Prisms
- Anamorphic Prism
- Dove Prism
- Wedge Prism

## Windows

Precision windows are available from 3 mm OD to 75 mm OD in barium fluoride, BK7, calcium fluoride, germanium, magnesium fluoride, sapphire, silicon, UV grade fused silica, and zinc selenide. Archer OpTx's full coating capabilities are available including: anti-reflective coating, high power coatings, and our custom hydrophobic/oleophobic/abrasion resistant coating.

## PerfectLens™ Positive Achromats

Archer P/N	Diameter	EFL	Lens 1 material	Lens 2 material	R1	R2	R3	CT1	CT2
ADP-5-7.5A	5.00	7.5	BK7	SF5	5.100	-3.100	-7.1	3.0	1.00
ADP-5-10A	5.00	10	BK7	SF5	6.329	-4.328	-11.35	2.5	1.00
ADP-5-15A	5.00	15	BK7	SF5	9.247	-6.481	-18.408	2	1
ADP-6-10A	6.00	10	BK7	SF5	6.329	-4.328	-11.35	3	1.00
ADP-6.35-12.7A	6.35	12.7	BK7	SF5	8.000	-5.754	-15.136	2.50	1.20
ADP-6.35-15A	6.35	15	BK7	SF5	9.350	-6.750	-18.408	2.50	1.20
ADP-8-10A	8.00	10	BK7	SF5	6.087	-5.100	-12.46	4.50	1.20
ADP-8-16A	8.00	16	BK7	SF5	9.957	-7.410	-19.953	2.80	1.2
ADP-8-20A	8.00	20	BK7	SF5	12.46	-8.954	-24.72	2.80	1.20
ADP-12.7-19A	12.70	19	BK7	SF5	11.90	-9.072	-23	6.00	1.500
ADP-12.7-25A	12.70	25	BK7	SF5	15.305	-11.565	-32.18	5	1.500
ADP-12.7-30A	12.70	30	BK7	SF5	18.408	-13.737	-38.756	4.00	1.500
ADP-12.7-50A	12.70	50	BK7	SF5	30.620	-22.220	-64.88	2.80	1.500
ADP-12.7-75A	12.70	75	BK7	SF5	45.600	-33.327	-99.303	2.50	1.500
ADP-25.4-30A	25.40	30	BK7	SF5	18.707	-15.668	-36.6	13.50	2.50
ADP-25.4-35A	25.40	35	BK7	SF5	21.710	-17.539	-44.284	12.00	2.50
ADP-25.4-40A	25.40	40	BK7	SF5	24.830	-19.470	-50.7	10.5	2.50
ADP-25.4-45A	25.40	45	BK7	SF5	27.774	-21.579	-58.08	9.50	2.50
ADP-25.4-50A	25.40	50	BK7	SF5	31.000	-23.330	-63.63	9.00	2.50
ADP-25.4-60A	25.40	60	BK7	SF5	36.961	-27.451	-77.42	8	2.50
ADP-25.4-75A	25.40	75	BK7	SF5	45.710	-34.014	-98.77	7	2.50
ADP-25.4-100A	25.40	100	BK7	SF5	61.800	-44.478	-128.83	6.00	2.50
ADP-25.4-150A	25.40	150	BK7	SF5	91.150	-66.370	-197.7	5.00	2.50
ADP-25.4-200A	25.40	200	BK7	SF5	122.180	-90.000	-266.4	4.00	2.50
ADP-25.4-250A	25.40	250	BK7	SF5	152.400	-111.400	-330.94	4	2.50
ADP-25.4-300A	25.40	300	BK7	SF5	182.410	-133.970	-397.604	3.00	2.50
ADP-25.4-400A	25.40	400	BK7	SF5	243.800	-177.155	-534.328	3.00	2.50
ADP-25.4-500A	25.40	500	BK7	SF5	304.580	-220.7644	-662.76	3.00	2.50
ADP-30-50A	30.00	50	BK7	SF5	30.417	-22.220	-62.705	12.50	2.50
ADP-30-80A	30.00	80	BK7	SF5	48.990	-36.600	-105.35	7.50	2.50
ADP-30-100A	30.00	100	BK7	SF5	61.026	-44.842	-131.726	7.50	2.50
ADP-50.8-75A	50.80	75	BK7	SF5	46.340	-37.760	-98.77	21	4.00
ADP-50.8-80A	50.80	80	BK7	SF5	48.600	-40.000	-108.38	19.00	4.00
ADP-50.8-100A	50.80	100	BK7	SF5	61.800	-47.097	-128.83	17.00	4.00
ADP-50.8-150A	50.80	150	BK7	SF5	92.900	-68.270	-194.99	11.50	4.00
ADP-50.8-200A	50.80	200	BK7	SF5	122.180	-90.000	-263.47	9.00	4.00
ADP-50.8-250A	50.80	250	BK7	SF5	152.400	-111.40	-330.94	8.00	4.00
ADP-50.8-300A	50.80	300	BK7	SF5	182.410	-133.97	-397.604	7.00	4.00
ADP-50.8-400A	50.80	400	BK7	SF5	243.800	-177.155	-534.328	6.00	4.00
ADP-50.8-500A	50.80	500	BK7	SF5	304.580	-220.7644	-662.760	6.00	4.00
ADP-50.8-750A	50.80	750	BK7	SF5	455.000	-330.940	-1000.00	5.00	4.00
ADP-50.8-1000A	50.80	1000	BK7	SF5	600.320	-442.338	-1367.70	5	.00

60-40 Scratch-Dig • Centration 3 arcmin • Diameter +0,-0.025 • VIS BBAR coating • SF6 glass available for element 2

## PerfectLens™ Negative Achromats

Archer P/N	Diameter	EFL	Lens 1 material	Lens 2 material	R1	R2	R3	CT1	CT2
ADN-6-9A	6.0	-9	BK7	SF5	-6.329	5.100	12.067	0.90	1.50
ADN-6-9B	6.0	-9	BK7	SF6	-5.900	5.600	11.110	0.90	1.50
ADN-8-12A	8.0	-12	BK7	SF5	-8.466	6.750	15.890	1.20	2.00
ADN-8-12B	8.0	-12	BK7	SF6	-7.790	7.410	14.800	1.20	2.00
ADN-10-15A	10.0	-15	BK7	SF5	-10.568	8.466	19.953	1.50	2.50
ADN-10-15B	10.0	-15	BK7	SF6	-9.761	9.460	18.707	1.50	2.50
ADN-12.7-20A	12.7	-20	BK7	SF5	-15.205	10.520	23.000	1.50	3.00
ADN-12.7-20B	12.7	-20	BK7	SF6	-14.2645	11.508	21.150	1.50	3.00
ADN-12.7-25A	12.7	-25	BK7	SF5	-16.827	12.500	32.180	1.50	3.00
ADN-12.7-25B	12.7	-25	BK7	SF6	-16.110	13.964	28.630	1.50	3.00
ADN-12.7-30A	12.7	-30	BK7	SF5	-19.498	14.140	38.756	1.50	2.50
ADN-12.7-30B	12.7	-30	BK7	SF6	-18.707	16.240	34.590	1.50	2.50
ADN-12.7-50A	12.7	-50	BK7	SF5	-31.520	22.490	64.880	1.50	2.50
ADN-12.7-50B	12.7	-50	BK7	SF6	-26.743	27.210	72.000	1.50	2.50
ADN-25.4-40A	25.4	-40	BK7	SF5	-28.355	21.880	50.700	2.50	5.50
ADN-25.4-40B	25.4	-40	BK7	SF6	-26.060	23.500	47.097	2.50	5.50
ADN-25.4-50A	25.4	-50	BK7	SF5	-34.014	25.108	63.210	2.50	5.00
ADN-25.4-50B	25.4	-50	BK7	SF6	-31.800	28.050	57.970	2.50	5.00
ADN-25.4-75A	25.4	-75	BK7	SF5	-45.710	36.000	108.380	2.50	5.00
ADN-25.4-75B	25.4	-75	BK7	SF6	-45.000	40.340	90.000	2.50	5.00
ADN-25.4-100A	25.4	-100	BK7	SF5	-61.800	45.000	133.970	2.50	5.00
ADN-25.4-100B	25.4	-100	BK7	SF6	-57.654	51.760	122.180	2.50	5.00

\*\*Archer OpTx designs and manufactures custom achromats to meet specific customer requirements.

\*\*\*Air-spaced achromatic assemblies available.