

DOUBLE CONVEX FUSED SILICA ACYLINDRIC LENS

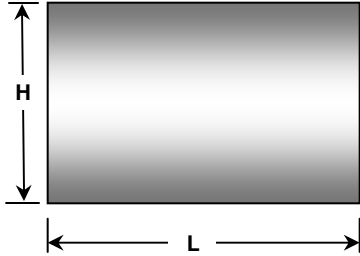
INFINITE CONJUGATES

SURFACE 1: PURE RADIUS

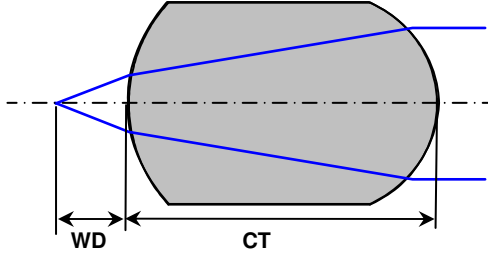
SURFACE 2: HIGH ORDER ACYLINDRIC

LENS DRAWING

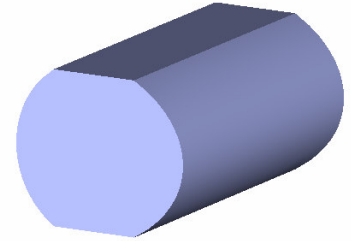
Front view



Side view



3D view



LENS DESIGN INFORMATIONS

Ordering Code ACL_DCX_RAC_INF_FS_EFL_L_AR($\lambda_1 - \lambda_2$)	Paraxial data ¹		Dimensions ¹			Surfaces data ^{1,2,3}					
	EFL	WD	H	CT	L	1	2				
						R	R	CC	A ₆	A ₈	A ₁₀
Material: Fused silica Design Wavelength: $\lambda_0 = 808$ nm Refractive index: $n(\lambda_0) = 1.4532$ Numerical aperture: NA = 0.74											
ACL_DCX_RAC_INF_FS_0.226_L_AR(750-1100)	0.226	0.034	0.26	0.31	custom	0.1561	-0.1137	-0.527	626.5865	-101428.77	3046099.51
ACL_DCX_RAC_INF_FS_0.330_L_AR(750-1100)	0.330	0.050	0.38	0.45	custom	0.2279	-0.1660	-0.527	94.396	-7166.75	100947.27
ACL_DCX_RAC_INF_FS_0.512_L_AR(750-1100)	0.512	0.077	0.60	0.70	custom	0.3538	-0.2575	-0.527	10.4996	-331.1554	1937.7172
ACL_DCX_RAC_INF_FS_1.210_L_AR(750-1100)	1.210	0.183	1.40	1.657	custom	0.8356	-0.6086	-0.527	0.1424	-0.8043	0.8427
ACL_DCX_RAC_INF_FS_1.461_L_AR(750-1100)	1.461	0.221	1.68	2.001	custom	1.009	-0.735	-0.527	0.0555	-0.2150	0.1545
ACL_DCX_RAC_INF_FS_8.691_L_AR(750-1100)	8.691	1.313	10.0	11.9	custom	6.00	-4.37	-0.527	7.64×10^6	-8.17×10^{-7}	1.66×10^8
Material: Fused silica Design Wavelength: $\lambda_0 = 940$ nm Refractive index: $n(\lambda_0) = 1.4512$ Numerical aperture: NA = 0.76											
ACL_DCX_RAC_INF_FS_17.023_L_AR(750-1100)	17.023	2.609	20.0	23.0	custom	13.00	-8.4454	-0.5203	1.76268×10^7	-2.9283×10^{-9}	-5.8263×10^{12}

1. Units: mm

2. The acylindric coefficients are given only as guidance for optical modeling. The actual surface is different, analytically designed higher order curve and gives better lenses.

3. Surface 1 faces focal point

General acylinder equation :

$$surf(x) = \frac{Cx^2}{1 + \sqrt{1 - C^2(CC+1)x^2}} + A_6x^6 + A_8x^8 + A_{10}x^{10} + \dots$$

Legend

- | | | | |
|--------------------------------------|--|---------------------|------------------------------|
| ACL : Acylindric lens | DCX : Double convex | FS : Fused Silica | EFL : Effective focal length |
| WD : Working distance | NA : Numerical aperture | H : Lens height | CT : Central thickness |
| L : Cylinder length | R : Radius of curvature | C = 1/R : Curvature | CC : Conic constant |
| Ai : General acylindric coefficients | AR($\lambda_1 - \lambda_2$) : Anti-reflection coating wavelength range | | |