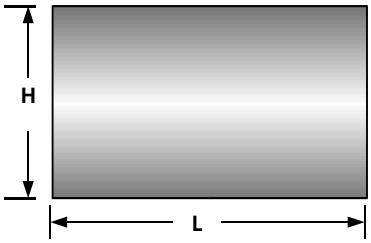
DOUBLE CONVEX FUSED SILICA ACYLINDRIC LENS

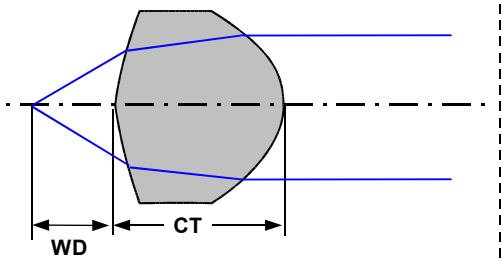
INFINITE CONJUGATES SURFACE 1: CONIC
SURFACE 2: HIGH ORDER ACYLINDRIC

LENS DRAWING

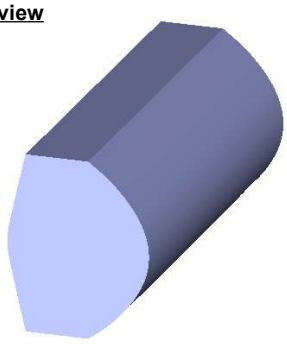
Front view



Side view



3D view



LENS DESIGN INFORMATIONS

Ordering Code	Paraxial data [1]		Dimensions [1]			Surfaces data [1,2,3]					
						1		2			
ACL_DCX_CAC_INF_FS_EFL_L_AR(λ_1 - λ_2)	EFL	WD	H	CT	L	R	CC	R	CC	A_6	A_8
Material: Fused silica **Design Wavelength:** λ_0 = 808 nm **Refractive index:** n(λ_0) = 1.4532 **Numerical aperture:** NA = 0.74											
ACL_DCX_CAC_INF_FS_0.050_L_AR(750-1100)	0.050	0.0181	0.0788	0.064	custom	0.0264	-18.43	-0.0322	-0.7538	1330821.0	-461554988
ACL_DCX_CAC_INF_FS_0.085_L_AR(750-1100)	0.085	0.0308	0.134	0.115	custom	0.0448	-18.43	-0.0548	-0.7538	93729.210	-11248141
ACL_DCX_CAC_INF_FS_0.152_L_AR(750-1100)	0.1527	0.0553	0.260	0.206	custom	0.0805	-18.43	-0.0985	-0.7538	5006.5230	-186125.78
ACL_DCX_CAC_INF_FS_0.222_L_AR(800-820)	0.222	0.081	0.376	0.300	custom	0.1172	-18.43	-0.1434	-0.7538	764.3038	-13397.6395
ACL_DCX_CAC_INF_FS_10.681_L_AR(750-1100)	10.681	3.8675	18.18	14.45	custom	5.6303	-18.43	-6.8893	-0.7538	2.99122×10^{-6}	-2.2732×10^{-8}

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

Legend

ACL : Acylindric lens **DCX :** Double convex **CAC :** Conic – acylinder **INF :** Infinite conjugates **MAG :** Magnification
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(λ_1 - λ_2) :** Anti-reflection coating wavelength range