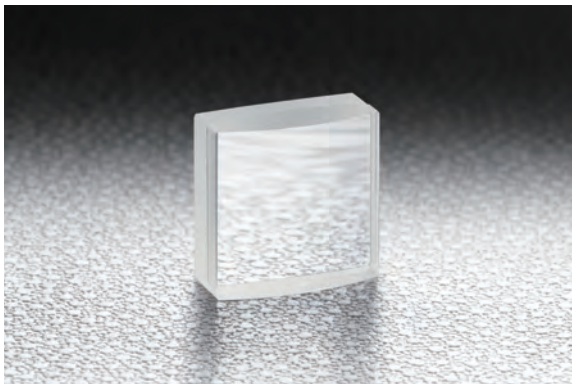
Achromatic Cylindrical Lens | CDL

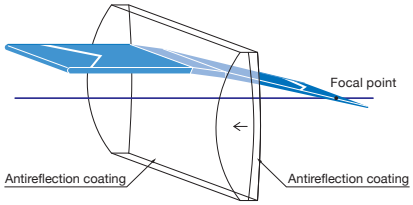
RoHS Catalog Code W3198

A cylindrical achromat is single component made by bonding two cylindrical surface lenses having different refractive indexes. The resulting achromat creates fine lines close to the theoretical limit. The cylindrical achromat is recommended if blurred lines and color bleeding is a concern when using cylindrical plano-convex lens (CLB-P).

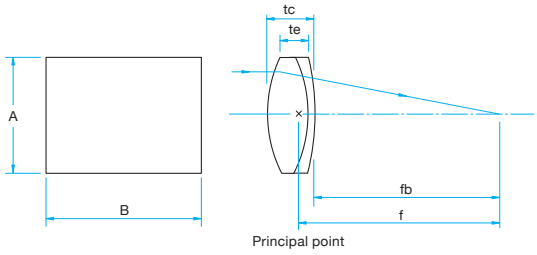
- It is designed so that difference of focusing point is reduced as much as possible in the visible light range.
- Optical adjustment is easy to do as direction of the condenser line will be parallel to the side of the diameter (B).
- It can be used as a substitute for a slit spectrograph.



Schematic



Outline Drawing (in mm)



●Tolerance

Length	$A^{+0}_{-0.2}$ $B^{+0}_{-0.2}$
Thickness	tc±0.2
Focal length	±3% (546.1nm)

Specifications

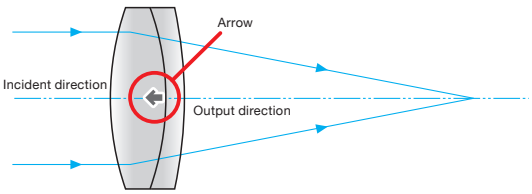
Material	N-SF5, BK7
Design wavelength	Blue: 486.1nm, Green: 546.1nm, Red: 656.3nm
Coating	Antireflection coating
Cement	Ultraviolet cure adhesive
Laser Damage Threshold	0.3J/cm^2 (Laser pulse width 10ns, repetition frequency 20Hz)
Surface Quality (Scratch–Dig)	60–40
Clear aperture	Circle that internally connected to 90% of the side length

Guide

- Different focal length and diameters not mentioned on-line or in our catalog are available as a custom product upon on request.
- Cylindrical lens holder (CHA) is available for mounting the achromatic cylinder lens. WEB Reference Catalog Code W4022

Attention

- There is a direction of the incident parallel light with achromatic cylinder lens. The radius of curvature is allowed to be incident parallel light from the side of (the surface indicated by arrows) small curvature surface. If it is incident parallel light from the opposite side, condensing line will be thick.
- In the generatrix direction (B direction), there is no characteristic to reduce the effect of achromatic, reducing aberration, and for collecting light.
- If it is incident line beam source into achromatic cylindrical lens, parallel light does not come out. It will diverge in the direction of the generatrix (B direction).
- In order to focus the fine beam line, it is necessary to enter the lens a parallel beam of high quality.



Specifications

Part Number	A×B [mm]	Focal length f [mm]	Edge Thickness te [mm]	Center Thickness tc [mm]	Back focal length fb [mm]
CDL-1515-25PM	15×15	25.0	6.4	9.0	18.2
CDL-1515-50PM	15×15	50.0	4.7	6.0	46.4
CDL-1515-100PM	15×15	100.0	4.3	5.0	97.1

Compatible Optic Mounts

CHA-25