# II-VI
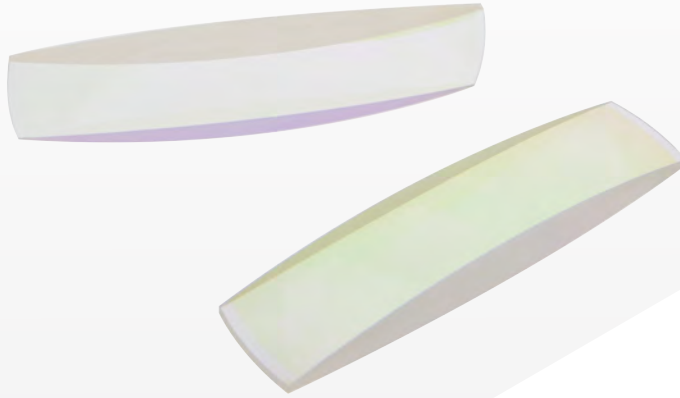
# High Performance Cylindrical Lens

## PRODUCT OVERVIEW

A cylindrical lens is a lens that focuses light into a line, as a spherical lens would. The curved face or faces of a cylindrical lens are sections of a cylinder, and they focus the image passing through them into a line parallel to the intersection of the surface of the lens and a plane tangent to it. The cylindrical lens compresses the image in the direction perpendicular to this line and leaves it unaltered in the direction parallel to it (in the tangent plane). Cylindrical lenses focus or expand light in one axis only. They can be used to focus light into a thin line in optical metrology, laser scanning, spectroscopic, laser diode, acousto-optic, and optical processor applications. They also can be used to expand the output of a laser diode into a symmetrical beam. In telecom, cylindrical lenses are widely used in WSS, 40G/100G modules, and pump laser modules.

## Applications

- WSS
- Projection optics system
- 40G/100G modules
- Pump laser modules

- Barcode scanning
- Laser measurements systems
- Holography

# High Performance Cylindrical Lens

## Dimensions
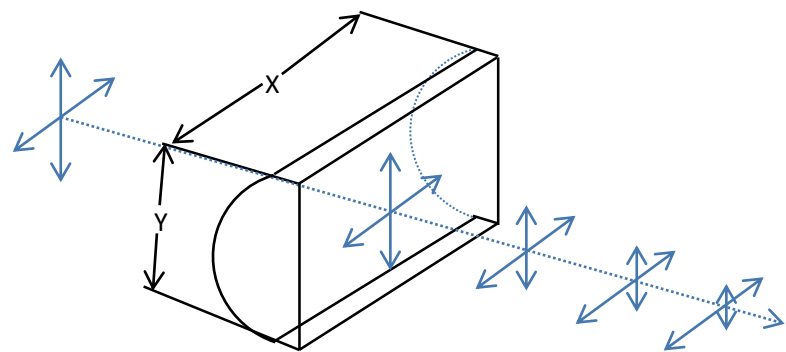


## Common specification

| Attribute | Commercial | High Precision |
|---|---|---|
| Material | Glass and similar | Glass and similar |
| Outside Size | 2-300mm | 2-300mm |
| Outside Size Tolerance | +0/-0.2mm | +0.0/-0.05 mm |
| Radius | Convex: R<1400mm | Convex: R<1400mm |
| | Concave: R<1400mm | Concave: R<1400mm |
| Radius Tolerance | <1.0%@R>500 | <0.5%@R>500 |
| | <0.5%@ R=100-500 | <0.2%@ R=100-500 |
| | <0.3%@R<15-100<br><0.5%@R<15 | <0.1%@R<15-100<br><0.3%@R<15 |
| Thickness Tolerance | +/-0.1 mm | +/-0.05 mm |
| Centration | <5' | <3' |
| Surface Quality | 60-40 scratch and dig | 10-5 scratch and dig |
| Surface Figure (in curve direction) at any 25.4*25.4mm | $<\lambda/4$ | $<\lambda/8$ |
| Surface Figure (in generatrix direction) at any 25.4*25.4mm | $<1\lambda$ | $<\lambda/2$ |
| Flat Irregularity at any 25.4*25.4mm | $<1/4\lambda$ | $<1/8/\lambda$ |
| Ra | <1 nm | <0.7 nm |
| Chip | <0.5 mm | <0.1 mm |

Other sizes, diameters and coatings are also available upon request.