



Cylindrical lens, also called a cylinder, is an optical lens which focuses light on to a line instead of on to a point, as a spherical lens would. The curved face or faces of a cylindrical lens are sections of a cylinder, and focus the image passing through it onto a line parallel to the intersection of the surface of the lens and a plane tangent to it. The 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).

Photonchina Cylindrical lenses are used to correct the output from diode lasers, to produce a round beam from the diode's elliptical output. They are also applied in optical systems to correct the shape of laser beams, change image aspect ratios, and illuminate in the shape of line source.

Cylindrical lens from Photonchina is among top-level in terms of surface quality, irregularity and dimension tolerance. It also provides the high precision, special shapes and specifications designed by customers.

### **General Comments on Manufacturing Limits for Photonchina**

This represents a general list of soft limits and is intended for reference only.

As requirements move closer to a min or max shown, fabrication becomes more difficult.

Certain combinations are attainable, with extra significant fixturing costs, e.g. crossed axis cylinders, cylinders/spheres.

Aperture coverage is often limited by the range of diffractive nulls available.

Length is always the dimension along the plano axis and width is the dimension across the power axis.

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## Capabilities

Attribute	Standard level	Premium	Photonchina's Ability
Diameter(mm)	+/-0.100	+/-0.025	+/-0.015
Central Thickness(mm)	+/-0.150	+/-0.050	+/-0.015
Radius (the larger one)	+/-1.0%	+/-0.5%	+/-0.1%
Surface Quality	60-40	40-20	10-5
Irregularity (Plano Surface)	1/4 Lambda or 0.5fr	1/8 Lambda or 0.25fr	1/15 Lambda or 0.15fr
Irregularity (Cylindrical Surface)	1/2 Lambda or 1.0fr	1/4 Lambda or 0.5fr	1/8 Lambda or 0.25fr
Centration(arc min)	+/-8	+/-3	+/-0.5

## Note

The surface quality data above is based on area of 20mm\*20mm

The irregularity data shown is based on per inch in dimension L.

The data of centration is based on each 20mm in dimension L.

