



# OPTICAL LENSES

## SPHERIC LENS

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**Optical Lenses**

N-BK7 Lenses

Fused Silica Lenses

CaF2 Lenses

Spheric Lens

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Cylindraical Lenses

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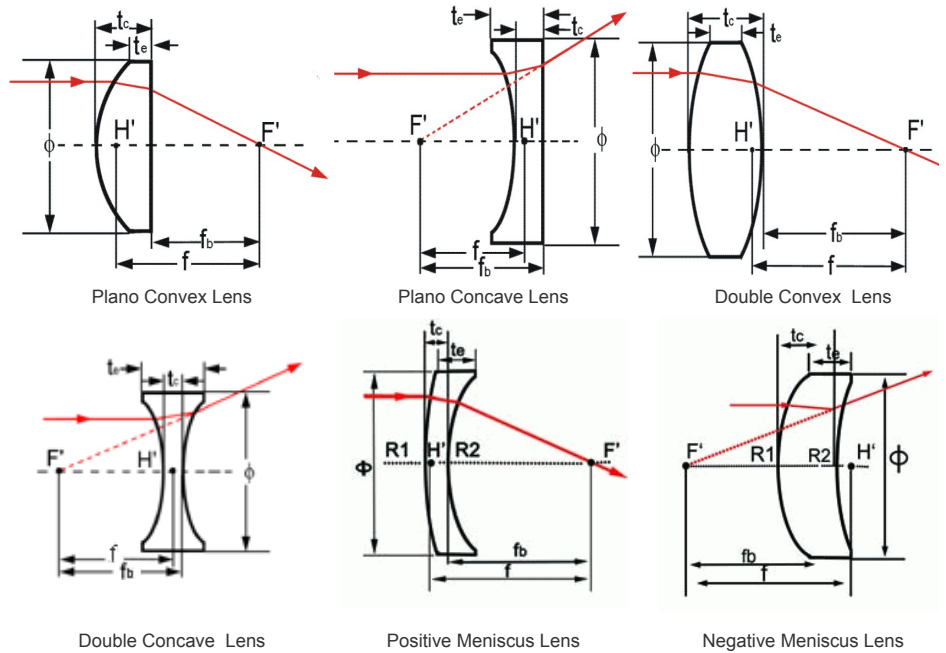
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### Spheric Lens

FOCtek provides five kinds of spheric lens forms, or shapes, that determine the imaging Characteristics of the lenses, they are plano-convex, plano-concave ,Double-convex, Double-concave and Meniscus.

- Plano-convex lens has a positive focal length, which makes it ideal for collecting and focusing light for many imaging applications.
- Plano-concave lens has a negative focal length and is used for image reduction or to spread light.
- Double-convex lens has a positive focal length and is useful for 1:1 imaging and in multielement systems. also known as biconvex or equiconvex.
- Double-concave lens has a negative focal length and is useful for 1:1 imaging and in multielement systems. also known as biconcave or equiconcave.
- Meniscus lens has a positive or negative focal length, it forms a real or virtual image of objects.



**Specifications of Spheric Lens**

Attribute	Specification
Material	N-BK7, H-K9, Fused Silica, N-SF10, Silicon, CaF <sub>2</sub> , Sapphire etc.
Typical Diameter (Φmm)	10.0, 12.7, 15.0, 20.0, 25.4, 30.0, 50.8, etc.
Diameter Tolerance (mm)	+0.0/-0.2 (General), +0.0/-0.02 (High Precision)
Paraxial Focal Length Tolerance (mm)	±2%
Centration	<3 arc min

## Spheric Lens

Clear Aperture	>80% (Small Size), >95% (Large Size)
Surface Figure (per 25mm@632.8nm)	<1.5 $\lambda$ , (General), < $\lambda$ /4 (High Precision)
IRR ( @632.8nm)	< $\lambda$ /4 (General), < $\lambda$ /10 (High Precision)
Surface Quality	60/40 (General), 10/5 (High Precision)
Bevel (face width x 45 <sup>0</sup> )	<0.25mm
Coating	uncoated, AR, HR, PR Coating, etc.

## Note for Spheric Lens:

- (1). Other optical glass materials from Schott or Chinese CDGM are also available upon request.
- (2). Custom-made Spheric Lenses at any size from diameter 2.0mm to 300mm are available upon request.
- (3). Typical paraxial focal length tolerance is  $\pm 2\%$ , better tolerance is available upon request
- (4). Typical centration is 3 arc minutes, better precision is available upon request.
- (5). Besides uncoated, Lenses with Anti-Reflective(AR), High-Reflective(HR), Partial-Reflective(PR) coating are available upon request, Please refer to Part 4 OPTICAL COATING for more information about coating.

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