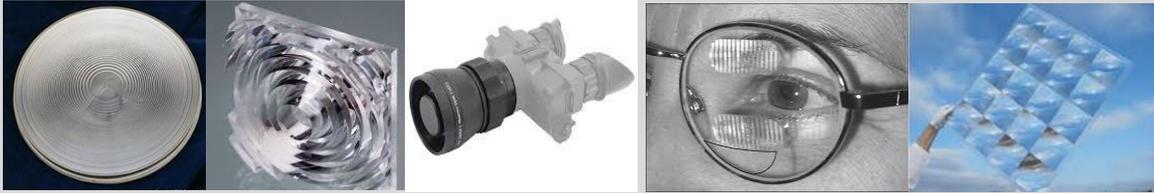




➤ Fresnel Lens



We produced Fresnel Lenses for

**Forest Fire Early Warning System*

**Medical Applications*

**Military Applications*

**Developing of the Projection Lenses*

**Optical Communications*

The driving principle behind the conception of a Fresnel lens is that the direction of propagation of light does not change within a medium (unless scattered). Instead, light rays are only deviated at the surfaces of a medium. As a result, the bulk of the material in the center of a lens serves only to increase the amount of weight and absorption within the system.

To take advantage of this physical property, 18th-century physicists began experimenting with the creation of what is known today as a Fresnel lens. At that time, grooves were cut into a piece of glass in order to create annular rings of a curved profile. This curved profile, when extruded, formed a conventional, curved lens – either spherical or aspherical (Figure 2). Due to this similar optical property compared to a conventional optical lens, a Fresnel lens can offer slightly better focusing performance, depending upon the application. In addition, high groove density allows higher quality images, while low groove density yields better efficiency (as needed in light gathering applications). However, it is important to note that when high precision imaging is required, conventional singlet, doublet, or aspheric optical lenses are still best.

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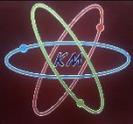
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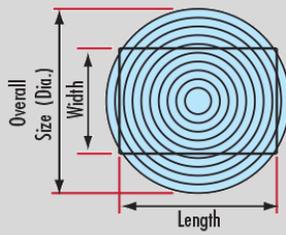


Figure 1

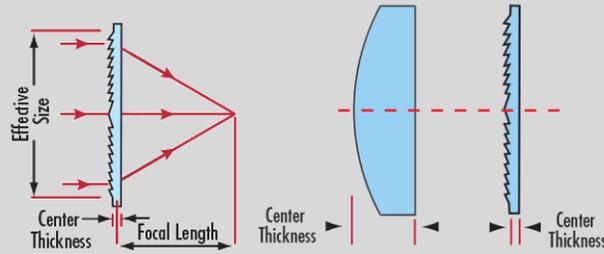


Figure 2

The choice of the optimum parameters of a microlens array depends very much on the actual design and requirements of your optical system.

Custom products are being developed in Fresnel Lens.

International Patents and Trademark Guarantees

1.) Fresnel Lenses have 10 years guarantees.

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