

Magnification Information

Magnification of lenses is measured by a unit called Diopter. Each diopter increases magnification by 25%, e.g. 4 diopter equals a 100% increase above original size. A 3 diopter lens equals an image size of 175% or 1.75 times that of the original size, a 5 diopter lens equals an image size of 225% or 2.25 times that of the original size, and an 8 diopter lens equals an image size of 300% or 3 times that of the original size.

Focal length or working distance is the other important factor that needs to be considered when purchasing a magnification system. Focal length is the distance from the center of the lens to the viewed object. Working distance is the distance from the bottom of the lens to the object when the object appears at maximum magnification without distortion.

It is important to remember that as magnification increases, the focal length decreases. With this in mind, if you need to work under the magnification system with a brush or similarly sized tool, you may not be able to use as high a power of lens due to the decrease in working distance. Therefore, as magnification increases, the magnification lens must move closer to the object to be viewed. In doing this, you are reducing the working distance between the lens and the object. Furthermore, the closer the lens moves towards the object to be viewed, the viewing area becomes smaller. If you need to view a larger area, use a lower power lens. But if a smaller viewing area is all that is needed like a ring or coin, a lens with higher magnification is better.

If all this sounds confusing, it can be. Just give us a call and we will be happy to help you out.

Magnification Information		
<i>Magnification Diopter</i>	<i>Magnification Times</i>	<i>Focal Length</i>
1	1.25	26"
2	1.50	20"
3	1.75	14"
4	2.00	10"
5	2.25	8"
6	2.50	7"
7	2.75	6"
8	3.00	5"
9	3.25	5"
10	3.50	4"